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ARTICULATION OF MILITARY MEMBERS INTO TEXAS HIGHER  
EDUCATION PROGRAMS: A CROSS-CASE ANALYSIS

by

PATRICIA E. ALVOET, B.S.N., M.Ed.

A DISSERTATION

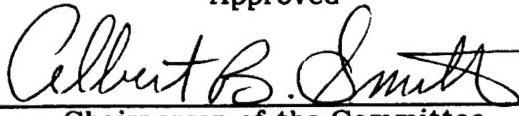
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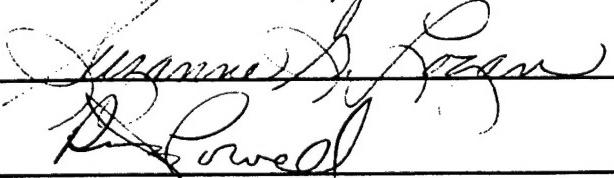
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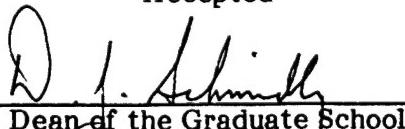
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May, 1999

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## ABSTRACT

The problem for this study was to explore factors that may contribute to the acceptance or rejection of military training for college credit. The purposes of this study were to: (a) compare the practice of awarding college credit for military training at three, Texas, four-year, higher education institutions; (b) compare the perceptions about military training of key leaders at three, Texas, four-year, higher education institutions; (c) profile factors which facilitated and inhibited the articulation of military students into three, Texas, four-year, higher education institutions; and (d) provide recommendations for policies and practices related to the award of college credit for military training. Research questions paralleled these purposes.

Using a multiple case study design, three higher education institutions with divergent views on awarding college credit for military training served as research sites. The unit of analysis was institutional leaders having input into the development of policies, practices, and programs related to awarding college credit for military training. Using an open-ended interview guide approach, eighteen formal interviews were conducted. Other sources of data included informal interviews, field notes, and journal entries.

Data analysis revealed five recurring themes. First, military members compared favorably to traditional college students. Second, consensus about what a college education should represent was lacking. This philosophical division limited organizational responsiveness to military students. Third, the

linchpin of articulation, comparable curriculum, negatively impacted military students; parallel programming was often lacking in collegiate settings. Non-traditional baccalaureate degrees that included an occupational component were helpful. Fourth, organizational change in the direction of implementing policies and practices favorable to military students was more likely in the presence of a pre-existing culture of outreach to non-traditional learners. Fifth, technology was driving significant changes within higher education that should benefit military students. Answers to the research questions were embedded in these themes.

Findings suggested that targeted strategies could improve the articulation of military members into higher education programs. To facilitate the articulation of military members, colleges and universities are encouraged to join the Servicemembers Opportunity Colleges consortium, appoint a transfer coordinator/military liaison, and evaluate the need for applied baccalaureate programs. Educational Service Officers are encouraged to incorporate provisions related to credit acceptance in memorandums of understanding with institutions providing programs on military installations, advocate credit by examination, and counsel military students regarding limitations of transfer credit.

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## CHAPTER I

### INTRODUCTION

#### Introductory Comments

“Knowledge has become the key resource—for a nation’s military strength as well as for a nation’s economic strength. And it is knowledge that can be acquired only in a formal process, that is through schooling” (Drucker, 1995, p. 259). The primacy of training has been long recognized by the military; there have been training programs as long as there have been soldiers (Becraft, 1989). A complex network within the Department of Defense (DoD) supports voluntary education. Educational centers on military installations provide such services as counseling and tuition assistance. These centers also partner with higher education institutions to provide college courses on base. On a larger scale, standardized testing and distance learning programs are but a few of the educational activities managed by DANTES, the Defense Activity for Non-Traditional Education Support (DANTES, 1997). A national consortium of higher education institutions and associations, Servicemembers Opportunity Colleges (SOC), advocates practices that strengthen collegiate opportunities for military students (SOC, 1997).

Political and social forces are acutely impacting both higher education and the military. Force reductions in recent years have yielded a smaller more sophisticated military in need of advanced training (Anderson & Kime, 1990). Similarly, higher education’s client base is dramatically shifting; traditional

students no longer dominate colleges and universities (Callen & Finney, 1997; Hall, 1991; Ostar, 1990). Consequently, a whole host of non-traditional learners, including military members, are expecting post-secondary institutions to recognize college-equivalent learning received in non-collegiate settings.

Given significant DoD efforts to encourage military members to continue their education and given the changing environment in higher education, there appears to be strong potential for advanced levels of education among military personnel. However, only a small percentage of enlisted service members earn an undergraduate degree. Although the American Council on Education (ACE) has, for over fifty years, evaluated armed forces training and determined that much is indeed college equivalent; many institutions are reluctant to award credit based on ACE recommendations (ACE, 1998; Palmer & Ludwig, 1991). Additionally, higher education systems provide little protection for military students and other non-traditional learners; articulation agreements typically focus on students following a traditional linear path (Bender, 1991; Palmer, 1989). Active duty members are often left with no alternative but to repeat courses, a practice that poses a deterrent to degree completion.

### Theoretical Framework

Consistent with Peterson's (1985) recommendation, this study was not designed to support a single pre-selected model, but rather to evaluate the adequacy of extant theories in light of the data collected. One of the goals of case study research is to explain a phenomenon in light of the theoretical

framework that evolves during the research process (Strauss & Corbin, 1990). In short, the theory emerges from the data and is not imposed on the data (Patton, 1980). While not constrained by previously developed perspectives, existing theory may serve as a foundation for further inquiry (Yin, 1994).

In terms of existing theories, given the need to improve the articulation of military members into higher education programs, change theory served as a starting point. Change, though inescapable, rarely occurs in a smooth, balanced, unresisted manner (Wolfson, 1996). According to Lewin (1951), organizations prefer homeostasis and equilibrium and, therefore, do not necessarily welcome change. However, when faced with the need to change, effective organizations adapt. The model of organizational change proposed by Lewin (1951) and depicted in Figure 1, involves unfreezing the current system, implementing a change, then refreezing to solidify long-term change acceptance and return to a state of equilibrium. Refreezing, or what other theorists term institutionalization or routinizing, is critical. Without this vital third step, even highly innovative and respected change can be short-lived (Curry, 1992; Rogers, 1983).

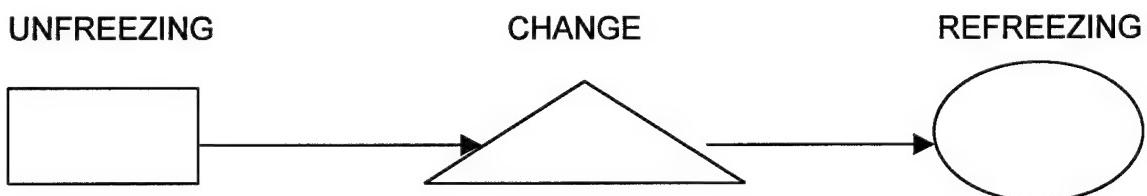


Figure 1. Organizational adaptation to change

The Lewin (1951) model provided an initial framework to enhance the understanding of how higher education institutions assess military training for

college credit. In Lewinian terms, some colleges and universities have progressed through the change process and have refrozen practices beneficial to men and women in the armed forces. Others, never perceiving the need to facilitate the articulation of military students, remain frozen in the paradigm which views only traditional learning as college equivalent. What remained unclear and served as the impetus for this study is why some institutions minimize or completely reject the academic worth of learning acquired in the armed services, while other institutions embrace military students and fully recognize the value of prior learning.

Strauss and Corbin's (1990) depiction of the change process supplements the Lewin (1951) model. As shown in Figure 2, when process is built into the analysis, snapshots of organizational action and interaction are linked to form a sequence. The grounded theory that evolves is dynamic, reflects multiple factors, and provides a sense of the flow of events occurring over time.

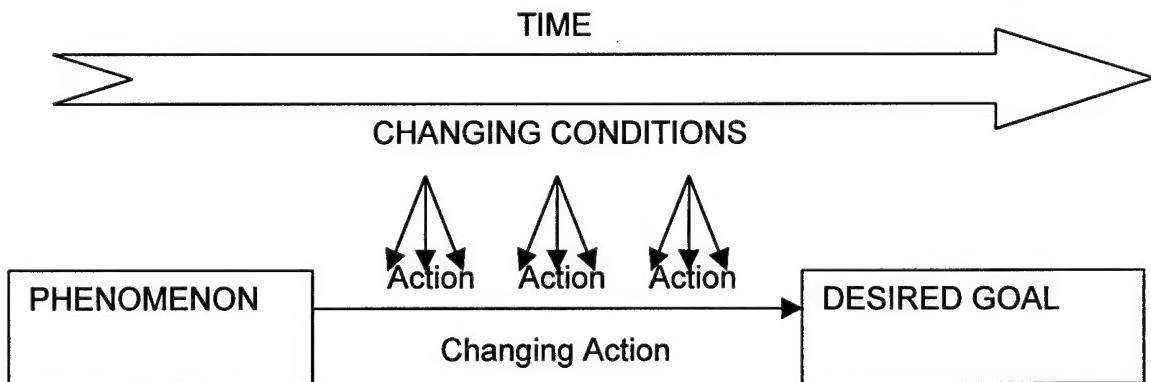


Figure 2. Organizational change process

As opposed to merely describing phases or stages of change, the in-depth process analysis endorsed by Strauss and Corbin (1990) accounts for

organizational variation. Of interest here was institutional variation with regard to the award of college credit for military sponsored education. On one hand, military students are presumably more likely to enroll in colleges and universities that are responsive to their needs; thus, flexibility is certainly in the best interest of colleges and universities near military installations. On the other hand, the literature suggests that granting credit for military training may be viewed as an institutional threat for four reasons. First, although learning outcomes for non-sponsored experiential learning activities are often equivalent to traditional higher education courses, faculty lose autonomy in defining acceptable student achievement (Apps, 1988; Dickson, 1993; Palmer, 1989; Steward & Spille, 1988). Second, the academic community has a long-standing record of concern about the quality of military education (Ashworth & Lindley, 1977; Watkins, 1981). Third, with increased emphasis on accountability and quality control in education, state resistance to anything perceived as nontraditional has stiffened (Apps, 1988; Stewart, 1989). Fourth, higher education institutions change slowly with the dominant culture being one of resistance to change (Hall, 1991; Levine, 1980; Rose, 1990).

### Problem

The problem for this study was to explore factors that may contribute to the acceptance or rejection of military training for college credit.

### Purpose

The purposes of this study were to:

1. Compare the practices of awarding college credit for military training at three, Texas, four-year, higher education institutions.
2. Compare the perceptions about military training of key leaders at three, Texas, four-year, higher education institutions.
3. Profile factors which facilitated and inhibited the articulation of military students into three, Texas, four-year, higher education institutions.
4. Provide recommendations for policies and practices related to the award of college credit for military training.

### Research Questions

This study was designed to answer the following questions:

1. What are the organizational mechanisms at three, Texas, four-year, higher education institutions for making credit determinations when evaluating military training?
2. How do key leaders at three, Texas, four-year, higher education institutions view military training?
3. What factors facilitated and inhibited the articulation of military students into three, Texas, four-year, higher education institutions?
4. What policy and practice recommendations related to the award of college credit for military training can be made?

5. How is the process of organizational change evident in the evolving policies and practices of evaluating military training for college credit at three, Texas, four-year, higher education institutions?

### Need for the Study

In 1997, 567,949 military members were enrolled in undergraduate education at a cost to the government of over 208 million dollars; however, only 27,454 (4.8%) were awarded associate or baccalaureate degrees (DoD Voluntary Education Program, 1998). This disparity suggested that while service members' education records are often extensive, including a scattering of courses taken in a variety of settings, degree completion is not the norm (Palmer & Ludwig, 1991). One issue impacting decisions to persist and complete an undergraduate degree is institutional willingness/ability to judge the relevance of military training to curricula and degree programs. Minimizing needless course repetition imposed by institutional policies and practices that limit credit transfer can save a great deal of time and money, and improve degree completion rates (Wright, Briden, Inman & Richardson, 1996).

### Definitions

The key terms and operational definitions employed in this research were:

Articulation – The range of processes and relationships involved in the systematic movement of military students into, between, and among post-secondary institutions. The goal of articulation is to promote problem-free

transfer of courses from one institution to another with minimal loss of time and credits (Stewart, 1989; Wright et al., 1996).

Change theory – A theory that provides an explanation of commonalities and relationships associated with individual and/or group change in terms of the causal structures and processes that are presumed to underlie them. Change theory concentrates on factors in a situation that are thought to be alterable (Gall, Borg & Gall, 1996; McGovern & Rodger, 1986; Narayana & Nath, 1993).

College credit – The two most common systems for measuring and recording course work and/or learning outcomes are semester credit hours and quarter credit hours. Semester credit hours mirror the semester calendar, which is usually about 15 weeks. One semester hour historically indicates 15 hours of classroom contact plus at least 30 hours of outside preparation. The quarter calendar is typically about ten weeks. Customarily two semester hours equate with three quarter hours (Stewart, 1989).

Factor – Any institutional element shown to improve or impede the articulation of military students.

Key leaders/administrators – An institutional member who has input into the development and/or implementation of policies, practices, or programs related to the award of college credit for non-traditional learning that may include military training.

Military student - An active duty service member who has compiled a record of military educational experiences identified as college equivalent by either the ACE or the Community College of the Air Force.

Military training – Training provided by the military and identified as college equivalent by either the ACE or the Community College of the Air Force.

### Assumptions

The following were the assumptions of this research:

1. Higher education institutions varied with regard to awarding credit for educational experiences obtained in the armed forces.
2. Participants would completely and accurately answer all questions.
3. Findings would be suitable for evaluating select theories of organizational change.

### Delimitations

The following were the delimitations of this investigation:

1. Only three, Texas, four-year, higher education institutions were included in this cross-case analysis.
2. This study examined only one aspect of institutional responsiveness to change, specifically the award of college credit for military training.

### Limitations

The following were the limitations of this study:

1. Participants were limited primarily to those directly involved in the development or implementation of policies or programs related to awarding college credit for military training.

2. Patton (1980) cautioned that deep personal involvement in the research may introduce bias. While enhanced theoretical sensitivity resulted from the author's sixteen years of military service, there is little doubt that this background influenced the study, at least to some degree.
3. Interviews, the primary means of data collection, were subject to distortion due to such things as partiality, recall error, anger, anxiety, politics, or simple lack of awareness (Patton, 1980).
4. Most participants were interviewed only once. Limited engagement impeded the development of trust, a significant obstacle to eliciting meaningful data (Denzin & Lincoln, 1994).

### Chapter Summary

Military students have difficulty articulating into post-secondary programs (Palmer & Ludwig, 1991; Stewart, 1989). This problem must be addressed if the military is to continue to push for more educated armed forces and if colleges are to take advantage of this pool of potential students (Palmer & Ludwig, 1991). While this chapter introduced research parameters, Chapter II provides a review of literature that encompasses: (a) military education; (b) college credit, transfer, and articulation; and (c) organizational change theory. Chapter III describes the methodological framework for the study. Chapter IV presents the research findings. Conclusions and implications for further research are discussed in Chapter V.

## CHAPTER II

### LITERATURE REVIEW

#### Introductory Comments

The review of literature to follow has three sections. The first section is devoted to military education and training. Here the author traces efforts to establish college equivalency of military training and provides an overview of programs currently in place to assist service members to continue their education. In the second section, the writer addresses broader issues of college credit, articulation, and transfer. The final section contains theoretical perspectives of organizational change as principally related to higher education systems. On-line catalog searches at three major research libraries identified text references. Potential journal references were identified using the following electronic databases: (a) First Search, (b) Lexis-Nexis Academic Universe, (c) Dissertation Abstracts International, and (d) Educational Resources Information Center (ERIC). The author reviewed approximately 700 books, articles, reports, and on-line sources. Appropriate research studies are cited in each section.

#### Military Education

Department of Defense (DoD) Directive 1322.8 requires the military services to establish and maintain voluntary education programs that provide opportunities for service members to achieve educational, vocational, and career

goals (DoD Voluntary Education Program, 1998). Whether a service member desires collegiate or military-sponsored instruction at the post-secondary level, participation is likely to be encouraged and supported (Stewart, 1989). The American higher education system has played a vital role in the education of the nation's military. Similarly, the military has made some significant contributions to higher education, especially in the field of adult and continuing education. This long-standing partnership has done much to establish the best-prepared military in American history (Anderson & Kime, 1996).

#### Accreditation of Military Learning

World War I veterans received specified amounts of college credit based purely on active service during this conflict; however, higher education leaders sought to avoid this ineffective blanket award following World War II (Rose, 1990). To meet the needs of millions of veterans accessing higher education using the GI Bill, the American Council on Education (ACE) and the United States Armed Forces Institute were asked to devise means to identify and recognize college-equivalent learning experiences gained in the military (Anderson & Kime, 1996; Rose, 1990).

The first edition of the Guide to the Evaluation of Educational Experiences in the Armed Services (ACE Guide), complete with college credit recommendations, was published in 1944 under the direction of George Tutle, Registrar at the University of Illinois (Rose, 1990). Given the growth in higher education at the time, the 1944 ACE Guide was universally accepted. According

to Miscampbell (1947), a study of academic deans showed the following: (a) 99% of their institutions gave some credit for armed forces experiences, (b) 94% accepted the formal courses classified by the ACE Guide, and (c) 97% accepted credit recommendations (as cited in Rose, 1990). As the numbers of veterans receded, colleges and universities stepped back from their original support of non-traditional assessment initiatives. Rose (1990) stated:

While there was general agreement on the need to expedite the educational process of veterans, there was little agreement about the broader implications of this move. In this case, while the aim to help adults (and all students) have more meaningful education was laudable, it sidestepped the ease with which the aims and purposes of higher education could be readily defined and objectified. This ultimately became the major stumbling block and indeed cannot be readily overcome today. (p.42)

The ACE Guide, which has been systematically updated and revised to reflect changes in military training throughout the past 55 years, remains an important reference for evaluating and recognizing learning acquired in the military. Currently, the ACE evaluates about 475 military training programs per year. Courses are evaluated by a team of subject matter specialists from higher education to determine the comparability with programs offered in the civilian education community (DANTES, 1997). The long-term success of this evaluation system spawned the Program on Non-Collegiate Sponsored Instruction (PONSI). This program was initiated in 1974 by the New York State Education Department and ACE for the purpose of assigning academic equivalency to educational programs offered by businesses, voluntary associations, government agencies, and labor unions (Hall, 1991). Although the ACE reference publications provide

credit recommendations, these recommendations are not binding. Institutions may accept, modify, or ignore them.

Research specific to the application of the ACE Guide is limited.

Cangialosi (1981) found that institutional type and regional location influenced use of this reference. Approximately 86 percent of public and 64 percent of private institutions reported using the ACE Guide as a basis for making credit determinations for an overall 75 percent of the 2,158 responding higher education institutions. From a regional perspective, a greater proportion of colleges and universities in the Rocky Mountains, Plains, and Far West areas of the United States reported using the ACE Guide. Most institutions indicated that credits awarded could be applied to required courses in the student's major or minor field, elective courses, and general education or distribution courses. Total institutional estimates for a twelve-month period revealed that 42,000 students received a total of 167,000 semester hours or approximately four credits per student based on the current ACE Guide recommendations.

Hexter and Anderson (1986) surveyed administrators from a nationally representative sample of 487 institutions. The six-section survey requested information on policies and procedures for granting college credit for extra-institutional learning. One of these sections was specific to the military. Eighty percent of those surveyed returned usable responses. Seventy-seven percent of all colleges in the sample reported granting credit for courses offered by the armed forces. Like the Cangialosi (1981) study, this research revealed that credits awarded may be applied to required courses in the student's major or

minor field, elective courses, and general education or distribution courses. Institutions were further asked to estimate the frequency with which credit was actually applied in those categories. The vast majority of credits awarded were applied to elective requirements. Respondents reported that an estimated 56,419 students received over 440,000 credits, or an average of eight credits per student for military learning in the 1984-1985 academic year.

The ACE in consort with the American Association of State Colleges and Universities, the American Association of Community and Junior Colleges, and the American Association of Collegiate Registrars and Admissions Officers conducted a multi-state study in 1988. Sixty-six two-year and four-year institutions in 11 states constituted the final sample. Admissions personnel were asked to evaluate a variety of fabricated transcripts listing military training that is often a part of the service member's background. Unlike the Cangialosi (1981) study, data revealed no significant differences in the award of college credit by institutional type. Overall, higher education institutions in this sample were hesitant to award college credit for military training. Like Hexter and Anderson's (1986) study, credits that were accepted were primarily applied to general education or elective requirements (Stewart, 1989). No similar national studies have been conducted in the past ten years.

#### Correspondence Courses

Primarily for morale purposes, the United States Armed Forces Institute provided off-duty education in the form of correspondence courses to service

members during World War II. A testing program was needed to allow individual colleges and universities to evaluate associated learning objectively. By 1945, the University of Chicago had developed 500 end-of-course exams and 90 subject exams. High school and college versions of the General Educational Development test were created as well (Rose, 1990). Self-directed correspondence programs remain an integral component of military training today (DoD Voluntary Education Program, 1998).

### Standardized Examinations

Rose (1990) credited the United States Armed Forces Institute examination program with laying the foundation for the practice of college credit by examination. In the 1950s, Columbia Teachers College permitted some of their students to test out of required courses. By the mid-1960s, with support from the Carnegie Corporation, the College Entrance Board standardized college level examinations (Hall, 1991). Department of Defense personnel have access to a wide range of standardized exams such as the College Level Examination Program (CLEP) free of charge; over 110,000 tests for college credit were administered in 1997 alone (DoD Voluntary Education Program, 1998). Though this number was certainly respectable, Stewart (1989) maintained that these examination programs are insufficiently utilized given their credit-generating potential.

### Tuition Assistance

War Memorandum No. 85-40-1, with Change 1 dated February 2, 1948 delineated policies for tuition payment for courses taken by military members, and is considered by many to be the forerunner of the current tuition assistance program. Congress formally provided authorization for civilian education on May 13, 1954 (Anderson, 1996). Though some limitations exist, tuition assistance generally pays 75 percent of costs for active duty members. In 1997 alone, 208 million dollars were spent in support of undergraduate education (DoD Voluntary Education Program, 1998). Without this support, most military students would not have the means to access higher education. As expected, aid for college serves as a major incentive for enlisting the best recruits (Hexter & El-Khawas, 1988). Boesel and Johnson's (1988) analyzed tuition assistance programs in the Army, Navy, and Air Force and identified other benefits as well. They concluded that there is a strong and consistent association between participation in tuition assistance programs and both retention in the military and enlisted promotions.

### Montgomery GI Bill

As stated previously, millions of veterans utilized GI Bill benefits following World War II. This law, signed by President Roosevelt, rewarded military members for honorable service. While subsequent legislation continued to reward honorable service, the 1976 Veterans Educational Assistance Program (VEAP) and the mid-1980s Montgomery GI Bill were also designed to serve as an incentive for enlistment (Anderson & Kime, 1996). Currently, under provisions

of the Montgomery GI Bill, members contribute \$100 per month during their first year of service. For this \$1200 investment service members can receive over \$14,000 in educational benefits that may be used for degree and certificate programs, apprenticeships, on-the-job training and correspondence courses (DoD Voluntary Education Program, 1998).

In discussing the importance of this legislation, Brady (1996) concluded that the bill literally transformed the nation. He stated,

With the help of the GI Bill of Rights, more than 7.5 million veterans went to college or other schools or received job training, according to the Department of Veterans Affairs. In the bill's peak year, 1947, vets accounted for nearly 50% of college enrollment...The program, which cost \$14.5 billion and ended in 1956, proved highly successful. According to the US Census Bureau, GI Bill veterans not only gained an edge over non-veterans but also increased their income by 40 percent in the four years following 1947. Economists calculate that during the lifetime of the average veteran, the US Treasury receives two to eight times as much in income taxes as is paid out in educational benefits. As of today, more than 20 million veterans and their dependents have taken advantage of benefits offered through subsequent GI Bills (rewritten in 1952, 1966, 1976, and 1984). (p. 4)

Representative Montgomery credited the GI Bill with saving the all-volunteer force (Anderson & Kime, 1990). In support of that contention, a survey of 422 soldiers at 32 Army installations identified educational benefits of the GI Bill as the top motivational factor for enlistment (Perez, 1994).

### Education Service Centers

Each military installation has an education center managed by a team of civilian and military professionals and directed by an Education Services Officer (ESO). These centers handle the tuition assistance program and provide an

array of other services such as standardized testing and educational counseling.

Another key responsibility of the ESO is searching for and partnering with appropriate higher education institutions to meet the educational needs of the base populace (Anderson & Kime, 1990).

#### Defense Activity for Non-Traditional Education Support (DANTES)

In the mid-1970s, the Defense Activity for Non-Traditional Education Support (DANTES) replaced the United States Armed Forces Institute (Anderson & Kime, 1996). DANTES manages a wide range of educational activities for the DoD that fall into six general categories: (a) examination programs, (b) distance learning, (c) educational reference publications, (d) development activities, (e) evaluation, and (f) the Servicemembers Opportunity Colleges consortium, which will be discussed later. Fundamentally, DANTES seeks to establish partnerships between civilian and military education communities in order to assist service members to further their education through non-traditional means (DoD Voluntary Education Programs, 1998).

#### Servicemembers Opportunity Colleges (SOC)

Military members seeking to access higher education potentially face a number of roadblocks. For example, because these young men and women are often highly mobile, residency requirements can essentially erase college credit earned elsewhere. Recognizing the need to address these issues, a Task Force on Extending Educational Opportunities for Servicemen was formed in January

1972. The original task force consisted of prominent community college educators and was funded by the Carnegie Corporation of New York. Within one year, criteria for membership in what was then called Servicemen's Opportunity College had been developed and the concept extensively marketed. When the first Servicemen's Opportunity College catalog was published in December, 1972, 77 community colleges in 28 states were designated member institutions (Anderson, 1996). Shortly after inception, some senior institutions voiced an interest in the concept. By May, 1974, 131 community colleges and 121 senior institutions had joined the consortium. The name changed to Servicemembers Opportunity Colleges (SOC) in the 1980s. Gradual growth in both membership and services provided has occurred over the past twenty-five years (Anderson, 1996).

Principles and criteria guide the operation of SOC. Fundamentally, the over 1250 member institutions try to be flexible enough to meet the unique needs of military members, while protecting and assuring the academic quality of educational programs. At a minimum, individual SOC institutions agree to:

- (a) design transfer policies to minimize loss of credit and avoid duplication of course work; (b) limit academic residence requirements; (c) recognize and use the ACE Guide and/or credit by the Community College of the Air Force to award credit based on military training courses and experiences; and (d) award credit through the use of nationally recognized testing programs (SOC, 1997).

### Community College of the Air Force (CCAF)

The Community College of the Air Force (CCAF) had its genesis at about the same time as SOC. In the 1970s, following the post-Vietnam War draw down, non-commissioned officers began taking on more mid-level managerial responsibilities. Air Force jobs were becoming increasingly technical in nature. A means to deliver educational opportunities to the entire enlisted force was needed. Since few higher education institutions offered credentialing programs related to Air Force occupational specialties, a system for translating the academic worth of Air Force education and training into terms the civilian sector could understand and recognize was needed as well. Thus, leaders recommended the formation of what was to become the CCAF (CCAF, 1998).

The five United States Air Force (USAF) Schools of Applied Aerospace Sciences, the USAF School of Health Care Sciences, and the USAF Security Service School formed the seven CCAF “campuses” at the time of inception. The program model included technical education, a core of general education from regionally accredited higher education civilian institutions, and management education from Air Force or civilian sources (CCAF, 1998).

Throughout the 1970s, the CCAF grew both in numbers and recognition. Early efforts to validate that Air Force training met civilian standards resulted in accreditation by the Southern Association of Colleges and Schools (SACS), initially as a non-degree granting occupational institution followed by degree-granting accreditation to award the Associate of Applied Science (AAS). Since issuing its first degree in 1977, CCAF has awarded more than 176,000 AAS

degrees. The AAS is currently awarded in 67 program areas. Annually about 11,000 airmen meet requirements for graduation. With over 388,000 registered students earning over a million hours of college credit, and affiliated schools located in 35 states, the District of Columbia, and several foreign sites, the CCAF is the largest multi-campus community college in the world (CCAF, 1998; DANTES, 1997).

In explaining why the Air Force has taken such a different road than the other services, occupational specialties must be examined. Many occupational specialties within the Air Force mirror civilian jobs. This is not the case in other branches of the military. As opposed to forming their own community colleges or a community college of the armed services, the Army, Navy, and Marine Corps leaders opted to work with SOC to form networks with higher education institutions that facilitate service members' degree completion (Anderson, 1996; Anderson & Kime, 1990).

### Quality Issues

The academic community has a long-standing record of concern about the proliferation of degrees awarded by the military (Anderson & Kime, 1996). The quality and legitimacy of educational programs can be examined from two perspectives. The first relates to the question of whether courses provided by higher education institutions on military installations are equivalent to those offered on home campuses. The second perspective relates to the question of whether the training provided by the military is indeed college equivalent.

Turning first to higher education institutional offerings on military bases, the University of Maryland began conducting off-campus courses on local military installations and at the Pentagon in 1946. Within a few years, the University of Maryland also began offering programs in Germany and the Far East (Anderson, 1996). Many higher education institutions followed suit; however, quality issues began surfacing in the 1970s. Ashworth and Lindley (1977) characterized on-base programs as diploma mills, noting that regional accrediting visits were rare and that criteria and standards for quality were lacking. Bailey (1979) visited thirteen major military bases in the continental United States and Hawaii. This snapshot descriptive study yield mixed findings. He reported,

(Off-duty post-secondary education in the military) is a potpourri of exciting fulfillments and shoddy rip-offs; rigorous standards and credit give aways; careful supervision and no supervision; dedicated academic counseling and dreadful (or no) academic counseling; adequate academic facilities, miserable academic facilities; vigorous support from military brass, a back-of-the-hand from military brass; a fruitful articulation with military skills training, a barren articulation with military skills training. (p. 2)

Charges by Ashworth and Lindley (1977) and Bailey (1979) triggered a series of rebuttal articles and further research. Allen and Andrews (1980), reporting findings from the Council on Post-secondary Accreditation's (COPA) study, presented a more balanced assessment. The COPA evaluated programs and services available at 25 bases which included all branches of the armed services. Fifty-four professional educators drawn from post-secondary institutions throughout the United States served as evaluators. Their conclusion was that the proportion of problematic programs and practices in relation to good

and acceptable programs and practices was no greater for on-base activities than for on-campus activities.

During the 1980s, various accrediting associations visited select military installations. These studies helped refine questions and concerns about quality, and laid the foundation for the current systematic review process. The Military Installation Voluntary Education Review (MIVER) is an independent, third-party assessment by a team of higher education professionals. For nearly ten years, the ACE has served as DoD's contractor for this project. Over 100 site visits have been conducted worldwide (Anderson, 1995; DoD Voluntary Education Program, 1998). In general, MIVER site team inspectors have found academic programs offered on military bases to be reflective of programs available in the higher education community. Identified opportunities for improvement included such areas as classroom facilities, libraries, computer resources, distance learning, and part-time faculty professional development (Anderson, 1995).

Turning now to the quality of military training, a program must undergo a vigorous evaluation process to be deemed college equivalent either by ACE or the regionally accredited CCAF. Hundreds of military courses have been so judged as reflected in the ACE Guide and the CCAF catalog. Other than official publications, not surprisingly, little appears in the literature. One study, conducted by the Aerospace Education Foundation (1971), explored the possibility of using segments from each of three Air Force courses (electronics, aircraft maintenance, and medical service specialist) within Utah's post-secondary educational system. The control group received instruction via the

usual curriculum while the experimental group received instruction using Air Force materials. Students using the Air Force procedures and materials performed at least as well as, and in some cases better than, those receiving standard instruction; and additionally, many instructors opted to continue using the Air Force training materials after the experiment was over.

### Summary

The preceding review of literature highlighted the prominent role education and training plays within the United States military system. On each installation an education center provides such things as tuition assistance, standardized testing, and college courses through partnerships with local higher education institutions. On a larger scale, the CCAF, DANTES, and SOC provide additional opportunities for military students to expedite their college education. However, though much armed forces training is college equivalent, research revealed a general reluctance on the part of higher education institutions to award credit for these educational experiences. The next section contains an examination of college credit, articulation, and transfer, and sheds further light on why academic legitimacy questions continue to surface.

### College Credit, Articulation, and Transfer

Students reasonably expect the academic currency they have accumulated in the form of college credit to be accepted on transfer; unfortunately, this often does not occur (Donovan, Schaier-Peleg, & Forer, 1987;

Shishkoff, 1991). In the review of literature that follows, the author examines issues that influence decision-making such as documentation, course comparability, and articulation agreements. The discussion includes the articulation challenges non-traditional learners present to higher education institutions, along with some degree programs designed to meet the specialized needs of this student population.

### Military Transcripts

Air Force enlisted members may request a CCAF transcript free of charge. Military training appearing on this transcript is limited to programs that have been deemed college equivalent in terms of Associate of Applied Science degrees. Additionally, because the general education component is obtained from other higher education institutions, these core courses will appear on CCAF transcripts as well. The Army also has a free transcript service called the ACE Army Registry Transcript System (AARTS). Such transcripts provide a record of active duty military education including American Council on Education college credit recommendations. The Marine Corps and Navy are developing a documentation system similar to AARTS called the Sailor/Marine ACE Registry Transcript (SMART). For items not listed on military transcripts, service members can submit a Department of Defense Form 295 (Application for the Evaluation of Learning Experience During Military Service). When properly filled out, this form is designed to provide the information higher education institutions need to determine college equivalency (DANTES, 1997).

### Comparability

Granting transfer credit indicates that a course is viewed as parallel to one offered by the receiving institution (Shishkoff, 1991). Diversity within the American post-secondary education system complicates the decision-making process. This diversity also helps explain why credits may be accepted at some colleges and universities, and not others. While students have the right to move freely from one segment of higher education to another, institutions have the right to demand autonomy in setting degree requirements (Palmer, 1989). Creech (1995) maintained that these conflicting ideals exacerbate what is already a confusing and difficult process.

In equating curricula to minimize the loss of time or credit, the literature indicates that certain types of courses fare better than others. Liberal arts programs are generally equivalent and, thus, often transferable (Ludwig, 1989). From the standpoint of non-liberal arts, on the other hand, considerable program variance exists. The Center for the Study of Community Colleges, as reported by Cohen and Ignash (1994), examined transfer rates of non-liberal arts programs in California, Illinois, and Texas. These researchers found that institutional type influenced credit transfer decisions. Research universities more selectively accepted non-liberal arts courses as compared to comprehensive colleges, especially in California and Illinois. Additionally, while some non-liberal arts courses were directly transferable to four-year institutions, trade and industry courses did not transfer at a high percentage. According to Bender (1991), baccalaureate programs designed for graduates of technical programs are

becoming more prevalent. These specialized degrees are further discussed later.

Recognizing that much communicative and transformative learning occurs outside the classroom, the notion that college credit should be awarded for non-traditional learning has gained momentum in recent years (Bailey, 1979; Hamilton, 1994). Whether or not the prior learning is sufficient for the proposed purpose and transferable from the acquired context to any new context is difficult to determine (Bailey, 1979; Hamilton, 1994; Trowler, 1996). McCormick (1993) suggested that three qualities form the foundation of college level learning. First, the learning in question should involve content that is traditionally taught in college as opposed to non-credit continuing education. Second, the knowledge should be generalizable. The learner should be able to apply knowledge gained to other relevant situations. Third, the knowledge must be conceptual. For learning to be considered college-level, there must be a published base of information and the student must be able to explain concepts in ways beyond the mere description of routines or procedures. The complexity of this determination may partially explain variant policies related to awarding credit for non-traditional learning. Of the 38 Texas four-year member institutions listed in the current SOC catalog (1997), 16 identified no maximum credit limit for non-traditional learning. Policies at the remaining 22 institutions allowed for a few as 18 hours or as many as 94 hours for non-traditional learning as depicted in Table 1.

**Table 1: Maximum semester hours for all forms of non-traditional learning at 22 Texas four-year Servicemember Opportunity Colleges**

Institution	Maximum number of semester hours for all forms of non-traditional learning
1	18
2	28
3	30
4	30
5	30
6	30
7	30
8	30
9	30
10	32
11	42
12	45
13	45
14	45
15	48
16	60
17	60
18	60
19	62
20	84
21	90
22	94
Mean	46.50
Standard deviation	21.43

Complexity in making credit determinations may also account for poor utilization of policies permitting the award of college credit for non-collegiate learning. Swiczewicz (1990) found that over 90% of United States colleges and universities had formal methods for assessing prior learning experiences; however, only 35% reported awarding more than 200 credits per year for such prior learning (as cited in Wolfson, 1996). Another explanatory recurring theme in the literature is fear that the significance of the degree will be diluted. The quality of learning off campus is viewed as inferior because faculty lose autonomy in defining courses that will satisfy degree requirements and acceptable student achievement (Apps, 1988; Dickson, 1993; Hamilton, 1994; Palmer, 1989; Stewart & Spille, 1988; Trowler, 1996).

### Non-Traditional Learners

Just as representative traditional students are hard to define, non-traditional students are difficult to categorize with great accuracy. Generally speaking, Hall (1991) characterized non-traditional learners as adults who typically chose to study part time because of financial limitations, family constraints, or work obligations. Though perhaps lacking in self-confidence initially, these students are frequently highly motivated. Adults tend to speak their mind, engage faculty as peers, demand access to costly services, and mandate flexible practices; further, those re-entering higher education want their prior experience to be recognized. According to Knowles (1970),

Because an adult defines himself largely by his experience, he has a deep investment in its value. And so when he finds himself in a

situation in which his experience is not being used, or its worth minimized, it is not just his experience that is being rejected—he feels rejected as a person. (p. 44) (as cited in Hamilton, 1994)

Anderson and Kime (1996) believed that another issue impacting non-traditional learners was the convention that training and education are different, with education alone being worthy of college credit. While many practitioners and theorists view training and education as separate and distinct phenomena, Watson (1979) used the terms synonymously stating, “people act as integrated beings, whose knowledge, skills, and attitudes are interrelated and inseparable. To make a distinction between training and education is to ignore these interrelationships” (pp. 4-5). Davis (1993) noted that much workplace training is identical, or nearly identical, to traditional education because the needs of the learners, the demands of the workplace, and the expectations of the academy intersect. Thus, the sharp distinction that academics like to draw between education and training is inaccurate (Gottron, 1991). Many employers, including the Department of Defense, integrate training and education with work. Hall (1991) pointed out that when viewed in terms of both numbers of persons served and total level of expenditures, corporate education and university education are virtually comparable.

### Articulation Agreements

In a recent survey of key strategies promoting transfer, the National Center for Academic Achievement and Transfer noted that both two and four year institutions rely heavily, though not exclusively, on articulation agreements

to facilitate the transfer process (Terzian, 1991). According to Roberston-Smith (1990), articulation was practiced as early as the 1920s with efforts directed at easing the transition from high school to community college. Though some states started sooner, for the most part, statewide policies and procedures came into being during the 1970s. Today, all fifty states have some higher education coordinating authority that actively promotes a more integrated educational system; however, differences in mission, selectivity, and demand for access to four-year state institutions make statewide agreements difficult to establish with any significant level of specificity (Knoell, 1990). Additionally, specialized accrediting associations and state licensure boards can impose curriculum restrictions that essentially negate articulation agreements with respect to lower division courses (Knoell, 1990; Leatherman, 1991).

Increased state involvement is expected, given growing demands for cost-containment (Callen & Finney, 1997). State efforts tend to be in the direction of uniformity and simplicity through such things as standardized course descriptions and numbers, a common general education core curriculum, and utilization of the associate in arts degree to fulfill lower-division requirements (Knoell, 1990). Texas does employ a common course numbering system. Further, the Texas Higher Education Coordinating Board (THECB) has delineated a variety of rules related to the transfer of lower division course credit. Accordingly, if the coordinating board determines that

...an institution inappropriately or unnecessarily required a student to retake a course that is substantially equivalent to a course already taken at another institution...formula funding for

credit hours in the repeated course will be deducted from the institution's appropriations. (THECB Rules, Section 5.392, 1998)

Whether or not articulation agreements truly facilitate transfer is debatable. About half of all college students begin at two-year institutions (Creech, 1995). While many have no intention of transferring to senior colleges or universities, of those who plan to seek bachelor degrees, few achieve this goal. The Center for the Study of Community Colleges reported a national transfer rate of about 22% (as cited in Creech, 1995). Failure of state or system imposed policies to bridge the gap between institutions is a recurring theme in articulation literature (Ludwig, 1989; Palmer, 1989; Terzian, 1991; Texas Association of Junior and Community College Instructional Administrators, 1995; Wright et al., 1996). In Setting the National Agenda: Academic Achievement and Transfer. A Policy Statement and Background Paper about Transfer Education, ACE (1991) contended that the degree to which articulation agreements actually breakdown barriers to transfer is a matter of speculation in light of the scarcity of related research.

Even if articulation agreements benefit traditional students, little protection is afforded military and other non-traditional learners. As stated before, the focus of these policies tends to be students following a traditional linear path, completing a general core curriculum and/or associate in arts degree program (Ludwig, 1989). Military students generally do not follow a sequential academic course of study, often lack a recognized credential, and seek recognition for non-collegiate learning (Ludwig, 1989; Palmer, 1989). CCAF graduates may have earned the AAS, but most articulation agreements do not meet the needs of

students completing occupational or technical programs; thus, except for the general education portion of their programs, time, and credit is likely to be lost in transfer (Bender, 1991; Knoell, 1990).

Cohen and Brawer (1996) reported that up to half of all community college students who transfer to four-year institutions come from occupational programs. In research profiling North Carolina transfer students, Fredrickson (1998) similarly found a significant percentage of transfer students originated from technical programs; 30% in this study. Fredrickson (1998) further noted that patterns of academic success were similar regardless of program of origin. Despite indisputably significant transfer percentages, Bender (1991) described vocational/technical students as an “invisible” sector of post-secondary education.

Though the AAS has historically been viewed as a terminal degree, today, community college programs do not stay in neat categories; collegiate, career, continuing education are all intertwined (Bender, 1991). Barkley (1993) pointed out that the need for an increasingly technical workforce will result in more graduates from vocational/technical programs. These students need upward educational access. Additionally, employers are demanding practical training within baccalaureate programs; thus, the need to articulate vocational/technical programs with baccalaureate programs will become increasingly important as our society’s technological needs evolve (Bender, 1991; Knoell, 1990). Educational advancement through specific program articulation is one way to address the problem. In Texas, a number of institutions have designed such programs as the

Bachelor of Arts in Applied Science that allow students with occupational backgrounds to transfer with almost all credit intact (Bankhead & Martin. 1998).

### Summary

Decisions to grant or deny college credit for prior learning, military or otherwise, may be influenced by such things as transcript documentation, course comparability, and articulation agreements. All branches of the military now have, or will soon have a transcript service. Whether or not transcript documentation contains sufficient information to make credit determinations is uncertain. Equating courses in transfer is challenging under the best of circumstances; non-traditional learners present special problems. While articulation agreements may benefit some students, these documents provide little protection for those not following a traditional path. Despite obvious obstacles, some institutions make an effort to recognize as much armed forces training as possible. The next section on organizational change may help explain why colleges and universities are often diametrically opposed on this issue.

### Organizational Change

Change, whether at the societal, organizational, or individual level causes discomfort (Tichy & Devanna, 1986). Even when innovations are desirable, change rarely occurs in an uncontested manner (Wolfson, 1996). Whether resisted or embraced, change is inevitable; yet change theory suggests that acceptance of innovation is not evenly distributed. Multiple variables seem to

influence individual and organizational adaptation (Jick, 1993; Wolfson, 1996; LaMarsh, 1995; North, 1993; Rogers, 1983). The discussion that follows begins with attributes of the innovation itself influencing change acceptance. Organizational characteristics and structures impacting change acceptance are also presented. Attention is then turned to various change models. These diverse frameworks are not mutually exclusive but rather highlight different aspects of what is clearly a complex phenomenon. Finally, issues specific to change within higher education systems are reviewed.

### Attributes of the Innovation

Certainly multiple variables influence organizational receptiveness to change. After reviewing over 100 related studies, Rogers (1983) concluded that these variables could be clustered into five general categories: (a) relative advantage, (b) compatibility, (c) triability, (d) complexity and (e) observability.

First, if the innovation is perceived as better than the idea it supercedes, adoption is accelerated. The relative advantage of the change may include any number of perceived benefits. These perceived benefits will vary relative to the position held by the organizational member (Rogers, 1983). While the need to change may be apparent to everyone in a crisis situation, the need to change to improve the operation of an overall healthy organization will not be as obvious (LeMarsh, 1995).

Second, for a change to be embraced, it must be compatible with existing culture (Beckhard, 1969; Bennis, 1989; Curry, 1992; Harrison, 1987; Katz &

Kahn, 1978; Tichy & Divanna, 1986). Culture typically refers to the pattern of development reflected in a society's system of knowledge, ideology, laws, values and day-to-day rituals. Morgan (1986) pointed out that organizations are mini-societies with their own distinctive cultures and subcultures. Viewing organizations as cultures highlights the symbolic significance of virtually every aspect of organizational life. Thus, when introducing change, a primary function of leaders and managers is to foster and develop desirable patterns of meaning (Morgan, 1986).

Third, complexity is negatively associated with receptiveness to change. Organizational members must understand the change they are expected to support (LeMarsh, 1995). If the proposed innovation is hard to understand, adoption becomes more difficult and time consuming (Cutright, 1996; Robinson, 1995; Rogers, 1983). According to Jick (1993), for most people, negative reactions to change are associated with loss of control. He stated,

Given that change, at its onset at least, involves some ambiguity if not outright confusion, this control is threatened. That is, resistance is frequently a reaction to a loss of control, not necessarily to the change itself. The further away a person is from knowing the rationale for the change and the implications of the change and how the change is to be operationalized, the greater the threat to that person's control over his or her environment. Quite simply, contemplating change in the abstract can evoke fear. (p. 6)

Fourth, the ability to try an innovation on a limited basis (trialability) is positively related to adoption (Rogers, 1983). If time permits, pilot projects may be helpful in this regard and are very consistent with the strategic planning

process (Kotler & Murphy, 1991). Clearly, a trial period provides members much more control than simply adopting the change outright.

Finally, individuals are more receptive to innovations yielding visible results (Rogers, 1983). If change is limited to isolated segments within the organization, though easier to implement, the innovation will either never take hold or produce fewer benefits than would be otherwise possible (Curry, 1992).

### Organizational Members

Organizations as social structures reflect member characteristics; therefore, organizational response to change is governed by individuals and groups who shape the social context (Curry, 1992). Rogers (1983) identified two member characteristics that are positively associated with organizational innovativeness: interconnectedness and complexity. Interconnectedness is the manner in which units within a social system are linked by interpersonal networks. With a large number of connections, new ideas flow more readily within an organization. Complexity in this instance refers to member knowledge and expertise. While the conception of innovative ideas is facilitated when organizational members are very knowledgeable, high member complexity can impede reaching consensus.

Not surprisingly, a positive attitude toward change on the part of leaders strengthens organizational innovativeness (Rogers, 1983). Though many definitions of leadership exist, a recurring theme is the ability to persuade others to pursue a common group goal (Birnbaum, 1988; Hogan, Curphy & Hogan,

1994; Roueche, Baker & Rose, 1989). Organizations typically delineate these common group goals as vision statements (Jick, 1993). Rogers (1983) defined a change agent as "an individual who influences clients' innovation decisions in a direction deemed desirable by a change agency" (p. 313). These parallel definitions support the common sense idea that effective leaders are, among other things, visionary change agents (Hall, 1991; Jick, 1993).

### Organizational Structure

Along with the special member characteristics, structural characteristics within organizations can serve to either facilitate or inhibit innovation adoption. Inhibiting factors include centralization and formalization. Centralization is the degree to which organizational power is concentrated in the hands of a relative few (Rogers, 1983). Because top leaders are often poorly positioned to identify operational problems or suggest relevant innovations, the range of ideas generated is limited. As expected, centralization is negatively associated with innovativeness (Hall, 1991; Rogers, 1983; Seymour, 1995). Because leaders cannot legislate commitment, mandated change will lack a constituency capable of lobbying for its continuation (Curry, 1992).

Highly formal organizations emphasize following rules and procedures. Though this rigidity is negatively associated with the generation of ideas, highly structured organizations are more likely to follow-through and implement change directives (Rogers, 1983). These organizations, built on the military model, look to the leaders for direction; collaboration and consensus building are not

encouraged. Much like the centralized organization, shared commitment will be lacking because organizational members are not involved in designing, implementing, and institutionalizing change (Curry, 1992; Rogers, 1983; Roueche et al., 1989; Seymour, 1995).

While centralization and formalization inhibit organizational innovativeness, what Rogers (1983) termed organizational slack can facilitate change adoption. Slack in an organization is the availability of uncommitted resources. Introducing innovation into large organizations can be difficult given their complexity; however, larger organizations have more resources at their disposal. Less organizational slack is available during times of scarcity; thus, risk-taking necessarily associated with change is inhibited.

### Linear Organizational Change Models

Linear models view the process of organizational change as sequential. Lewin's (1951) three-step change theory is arguably one the best known and frequently sited linear frameworks. This perspective assumes that organizations prefer homeostasis. A state of quasi-stationary equilibrium occurs in a social situation when the forces strengthening a standard or behavior are equal to forces opposing that standard or behavior. When forces favoring a change surpass forces favoring stability, successful organizations make adjustments and adapt. The three-step process proposed by Lewin (1951) involved unfreezing the current system, implementing a change, and then refreezing to solidify long-term change acceptance and return to a state of equilibrium. Curry (1992)

presented a similar three-step framework involving mobilization or preparing the system for change, change implementation, and institutionalization characterized by system stabilization in the change state.

The diffusion of innovation model espoused by Rogers (1983) proposed that the innovation process consists of five stages: (a) agenda setting, (b) matching, (c) redefining/restructuring, (d) clarifying, and (e) routinizing. The organizational life cycle model is predicated on the assumption that like human beings, organizations advance through a series of predictable phases. A model championed by Greiner (1972) identified expected stages as follows: (a) birth, (b) growth through direction, (c) growth through delegation, (d) growth through coordination, and (e) growth through collaboration.

Managing planned change through strategic planning is another common linear model. Kotler and Murphy (1991) defined strategic planning as a process of "developing and maintaining a strategic fit between the organization and its changing marketing opportunities" (p. 240). Baldridge (1993) elaborated further by stating,

Strategic planning examines the big issues—the organization's purpose, its mission, its relationship to its environment, its share of the market, its interactions with other organizations. Strategic planning is not concerned with nuts-and-bolts issues....[It] asks the basic questions of institutional health and survival. (p. 175)  
(as cited in Upcraft & Schuh, 1996)

While the conceptualization of this process varies, most frameworks include such systematic steps as conducting an environmental scan, developing a vision, and identifying change strategies (Kotler & Murphy, 1991; Prinvale, 1989; Seymour, 1995; Shires, 1994; Tan 1990).

## Non-Linear Organizational Change Models

Stacey (1992) viewed organizations as complex, inherently fluid entities. While this instability can be a catalyst for creativity and innovation, change in an unstable environment rarely occurs in an orderly step-wise fashion. Jick (1993) stated,

This unrealistic portrayal of the change process can be dangerous. Already organizations are inclined to push faster, spend less, and stop earlier than the process requires. Such inclinations are further strengthened by an illusion of control that in fact, does not exist. By making change seem like a bounded, defined, and discrete process with guidelines for success, many authors mislead managers, who find that the reality is far more daunting than they expected. They feel deceived; instead of a controllable process, they find chaos. (p. 193)

Chaos theory, also known as non-linear dynamical systems theory, non-linear systems theory, complexity theory, complex systems theory, complex adaptive systems theory, and the study of complex non-linear systems, had its genesis in mathematics but has been applied to multiple disciplines in recent decades (Gleick, 1987; Senge, 1994; Vicenzi, White & Begun, 1997). The word chaos is often associated with disorder. On the contrary, chaos theory maintains that concealed within seeming disorganization is a deeper pattern of order. What may appear random is actually part of a larger system. As applied to organizations, unpredictability and apparent randomness are intrinsic and anticipated, not extraneous or aberrant. Change in one component of a system can have non-proportional effects on other parts of the system. Similar changes would not be expected to yield identical results in different organizations (Vicenzi et al., 1997).

Perhaps the best known example of chaos theory comes from the study of weather. In 1961, Lorenze noted that accurate weather prediction was absolutely dependent on initial conditions; thus, despite state of the art monitoring systems, the introduction of a small mathematical error rendered long-range forecasting essentially impossible. This small mathematical difference could result from something as seemingly insignificant as the puff of air generated from flapping butterfly wings. The notion that the flight of a butterfly today in Peking could effect storm systems next month in New York, somewhat jokingly came to be known as the butterfly effect (Gleick, 1987). As applied to organizational change, chaos theory allows for some level of understanding; however, prediction remains impossible (Patton, 1990; Stacey, 1992).

Along with chaos theory, another recurring theme in recent non-linear organizational change literature involves the concepts of loosely coupled systems and feedback loops. Loosely coupled systems are weakly tied together and minimally interdependent. This loose coupling lowers the probability that the organization will be able to respond to each minor environmental change (Weick, 1991). Similarly, cybernetics theory rests on the assumption that while homeostasis is desired, controlling all organizational entities is both undesirable and impossible. A more appropriate approach is to devise mechanisms, or critical feedback loops, that identify potential problems as opposed to monitoring the entire system (Birnbaum, 1988).

### Adaptive Organizational Change Models

The population ecology model has its roots in the biological sciences and rests on the premise of natural selection driven by resource scarcity and competition. The environment is the critical factor in determining organizational success or failure (Morgan, 1986). Successful organizations exploit system variation in order to find a niche and survive. Retention mechanisms then preserve selected organizations (Chaffee, 1991; Narayanan & Nath, 1993). Narayanan and Nath (1993) maintained that this model is particularly applicable to small organizations impacted by environmental pressures even in the short run.

Resource dependence theorists, like population ecologists, recognize the importance of environmental influences. The key difference between these frameworks is the level of control organizations have in dictating their own fate. The population ecology model rests on the assumption that the environment selects the fittest organizations; leaders exercise little control. The resource dependency model portrays organizations as capable of adaptation as long as required resources can be obtained. In this framework, leaders exercise great control because of their influence over organizational resources (Narayanan & Nath, 1993).

In yet another model, imitation is viewed as adaptive. Through imitation, managers seek to copy seemingly successful practices and avoid criticism for being different (Narayanan & Nath, 1993). This type of benchmarking is a well-known corporate strategy; however, LeMarsh (1995) cautioned that modeling is

not an effective change formula unless the practices modeled are consistent with the organization's future.

### Higher Education and Change

Many higher education institutions such as Empire State College and Regents College have, for decades, improved access through innovative delivery and assessment methods (Hall, 1991). Another innovative delivery system in this region is a "virtual university" known as Western Governors University (WGU). Founded in 1996 by the governors of two western states, WGU uses technology to distribute courses wherever students are located (WGU, 1999). Despite pockets of innovative practice, whether or not higher education is responsive to societal needs is open to debate (Levine, 1980; Rose, 1990).

In a recent study comparing the speed with which over 200 institutions adopted 30 specific innovations, Siegfried, Gertz, and Anderson (1995) found that colleges and universities took about 25 years to adapt to change, as compared to about 10 years in business and industry. Tichy and Devanna (1986) accused college and universities of producing degree holders for shrinking or non-existent job markets by deliberately ignoring demographic and economic indicators of unmistakable significance. Hall's (1991) assessment was perhaps a bit more balanced. He stated,

The university is, by its purpose, structure, and governance, indeed a highly conservative organization. Like all organizations, the university seeks stability and treasures security and certainty. But during its three-century long American quest, whenever the university has imagined itself to have found an inner stability, it has been prodded, frustrated, sometimes energized, and almost

always eventually changed by the shifting demands of the American social environment. The university is thus of two minds: one is intensely protective of its traditions and practices, openly resisting change and public intrusion; the second consciously seeks new knowledge, new audiences and new structures in interaction with the leading edge of society. American society itself expects and requires both approaches. The resulting conflict of expectations between preservation and innovation is not a phenomenon reserved for the recent past, but a tension which has been present from the universities earliest development on this continent. (p. 8)

Despite extraordinary past success, Hall (1991) contended that change resistance in these turbulent times could be disastrous. A rapidly changing workforce, dwindling financial support despite increased operating costs, changing student demographics, and increased scrutiny by federal and state agencies are just some of the current dilemmas facing higher education (Callen & Finney, 1997). Crow (1998) predicted that flexible universities that acted quickly would survive; others would not endure as research universities.

Callen and Finney (1997) noted that receptiveness to non-traditional learners may be key to economic survival for at least some institutions; however, decisions to institute academic change ultimately rest with faculty and administrators. Ambash (1994) suggested that because the preponderance of academic professionals followed a traditional degree path, at some conscious or subliminal level, many associate college-level learning with time spent in the classroom. Shifting that perspective is difficult (Ludwig, 1989).

## Summary

The preceding review of literature revealed that multiple factors related to the innovation itself, organizational members, and organizational structure impact decisions to adopt or reject innovation. In terms of implementation, different theoretical models give prominence to different aspects of the change process; however, all frameworks presented consistently reveal the multi-dimensional nature of this complex phenomenon. Finally, the propensity of college and universities to resist innovation calls into question whether institutional leaders will be able to navigate the relentless pace of change that will surely be evident in the twenty-first century.

## Chapter Summary

This chapter contained three sections. Section one highlighted the accreditation of military training from a historical perspective as well as the mechanisms in place to assist service members to continue their education. Though the longstanding relationship between higher education and the military has overall been mutually beneficial, the inability and/or unwillingness of some colleges and universities to acknowledge the college equivalency of much military training makes articulation unduly difficult.

The discussion of college credit, articulation, and transfer in section two served to clarify the complicated nature of evaluating any transfer student. Even if higher education institutions were committed to enhancing access through the recognition of non-traditional learning, the way is not clear. Among the many

factors negatively impacting effective student movement between and among institutions is the occupational nature of much military and other non-traditional learning. Degree programs that include a technical/vocational component provide a helpful option for those with applied backgrounds.

Section three provided an overview of organizational change to include factors facilitating and inhibiting the adoption of innovation along with explanatory theoretical models. Additionally, the changing environment in higher education was discussed. While the dominant culture among educational institutions seems to be one of change resistance, such resistance may no longer be a luxury four-year institutions can afford. By all projections, challenge and change will be the watchwords of the new millennium. Chapter III, to follow, contains a discussion of the methodological blueprint for this research.

## CHAPTER III

### METHODOLOGY

#### Introductory Comments

The methodology section describes how the study was conducted. This chapter includes: (a) the research design, (b) sampling decisions, (c) piloting efforts, (d) data collection methods, and (e) data analysis. Strategies employed to enhance the vigor of the study and to protect human subjects are described as well. Finally, findings anticipated prior to data collection are discussed.

#### Research Design

A multiple case study design was selected to answer the research questions. The phenomenon of interest was the award of college credit for military training. The focus was college to college variance related to both the practice of awarding credit for military training and associated perceptions of the credit worthiness of this training. The unit of analysis was institutional leaders having input into the development and/or implementation of policies, practices, and programs associated with the award of college credit for military training. Organizational change theory served as a theoretical frame of reference.

The case study method was particularly appropriate for this research. Case studies allow investigators to retain the holistic and meaningful characteristics of, among other things, organizational and managerial processes (Yin, 1994). Yin (1994) further identified the establishment of causal links in

problems too complex for survey or experimental strategies as the most important application of case studies. Case study research can link events over time to reveal organizational processes and provide an opportunity to evaluate established theory (Merriam, 1988; Strauss & Corbin, 1990; Yin, 1984).

Prior research is sparse and limited primarily to surveys. Although the resultant descriptive data and quantitative analysis yielded from these studies has provided helpful information, lacking heretofore is site-specific analysis of issues and practices relevant to military students. Similarly, survey methodologies with quantitative data analysis have dominated organizational research. Rogers (1983) linked the lack of organizational case studies with limited understanding of the diffusion of innovation within these systems.

### Population

The population of interest was all four-year, public and private higher education institutions. Because case studies generalize to theoretical propositions, directly applying findings from this research to the population was neither possible nor an expected function of this study (Yin, 1994).

### Sample

As Strauss and Corbin (1990) recommended, the research questions served as the driving force for all sampling decisions. To best address these questions, purposeful sampling strategies were employed to identify potential individual and institutional participants. Patton (1990) described purposeful

sampling as the process of selecting cases likely to be information rich with respect to the purposes on the study. A description of decision-making relative to the selection of both universities and informants follows.

### Institutional Selection

One of Patton's (1990) purposeful sampling strategies, maximum variation sampling, was employed to select potential institutions. This method involves selecting cases that illustrate the range of variation in the phenomenon to determine whether common themes, patterns, and outcomes cut across this variation (Creswell, 1994; Gall, Borg, & Gall, 1996; Patton, 1980). During the week of September 25, 1998, five educational counselors familiar with regional practices of awarding college credit for military training were interviewed. Undergraduate catalogs were reviewed to verify policies specific to military students as relayed by these counselors. Based on this preliminary data collection, three potential research sites that differed significantly in their approach to managing military students were identified. Attention was then turned to gaining access.

Institutional leaders were contacted by phone regarding possible participation in the study. An explanatory letter (Appendix A), proposal abstract, and full proposal followed-up these initial telephone contacts. After resolving initial concerns, all leaders eventually agreed to participate. For the purpose of this study, these institutions were referred to as: "Scarlet University" (SU), "Ivory

University" (IU), and "Crystal University" (CU). Table 2 provides basic demographic information.

Table 2: Demographic comparison of "SU", "IU" and "CU"

Demographic	University		
	SU	IU	CU
Carnegie Classification	Research II Public	Doctoral I Public	Baccalaureate II Private
Total Enrollment	Approx. 25,000	Approx. 25,000	Approx. 4,000
% White students	82%	78%	69%
% Non-white students	18%	22%	31%
% Active Duty Military	Unknown Estimated < 1%	Unknown Estimated < 1%	Approximately 50%
Nearest military installation	103 miles from main campus	97 miles from main campus	103 miles from main campus
Presence on military installation	No	Yes	Yes
Member of SOC	No	Yes	Yes
Credits accepted from CCAF	Yes	Yes	Yes
Credits accepted from <u>ACE Guide</u>	No	Yes	Yes
Applied baccalaureate degree programs	No	Yes	Yes

Note: SU = Scarlet University; IU = Ivory University; CU = Crystal University

Examination of demographic data revealed five key differences between these institutions. First, as reflected in the Carnegie (1994) classifications, teaching undergraduates was the primary mission of CU. Along with teaching, SU and IU were heavily involved in research activities at the graduate level. Second, Texas Higher Education Coordinating Board (1997) enrollment statistics confirmed that SU and IU were similar in size and approximately six times larger than CU; however, CU's student body was more ethnically diverse. Third, in each case, the main campus was approximately 100 miles from the nearest military installation. IU provided one graduate program on one military installation while SU provided none. Neither institution enrolled active duty members in significant numbers. Conversely, military members accounted for half of CU's total enrollment. CU operated several geographically separate centers from its main campus, most of which were on or near military installations. Fourth, both IU and CU were members of the SOC consortium and accordingly accepted both CCAF credits and ACE Guide credit recommendations. SU had not yet joined the SOC consortium, but did accept CCAF credits. The ACE Guide was not used at SU. Finally, both IU and CU offered non-traditional baccalaureate degree programs.

#### Participant Selection

Desirable participants may be those that are particularly well informed, articulate, approachable, available, and have an understanding of the organizational culture (Merriam, 1988; Wolcott, 1988). In selection decisions, an

overriding principle must be the potential of each participant to contribute to the development of insight and understanding of the phenomenon of interest (Merrian, 1988). For the purposes of this study, the sample was limited to institutional members involved in the development and/or implementation of policies, practices, or programs related to the awarding of college credit for non-traditional learning, including military training.

In keeping with the pre-established criteria for participant selection, a senior leader from each institution served as a starting point. Additional participants were chosen using what Glesne and Peshkin (1992) referred to as a "snowball" or "network" technique. This strategy involved asking early participants to provide suggestions for future contacts. This technique was consistent with Strauss and Corbin's (1990) recommendation that sampling and analysis occur in tandem with analysis guiding the data collection process; thus, sampling was based on the evolving theoretical relevance of concepts discovered during analysis. Consistent with this technique, some sampling variation institution to institution was expected and did occur.

Eighteen formal interviews were conducted. Participating administrators were employed in a gamut of positions as delineated in Table 3. These interviews were conducted over a period of about two months as listed in Appendix B. Each participant was simply identified as an administrator and given a number based on the interview sequence. Positions specific to institutions were purposefully not identified to maintain anonymity.

Table 3: Titles of Formal Interview Participants

Participant Position	Number Interviewed
President	2
Vice-President of Academic Affairs	1
Provost	1
Director of Undergraduate Admissions	1
Director of Institutional Research	1
Site Director	2
Dean	2
Program Director	1
Admissions Personnel	3
Faculty	4
<b>TOTAL</b>	<b>18</b>

To enhance theoretical sensitivity, twelve informal interviews were conducted with a variety of pertinent individuals as identified in Table 4. Strauss and Corbin (1990) contended that theoretical sensitivity provides "...insight, the

ability to give meaning to data, the capacity to understand and capability to separate the pertinent from that which isn't" (p. 42). Though the researcher has much personal and professional experience with military training, additional background information beyond what was available in the published literature was needed. These informal interviews ranged in duration from a five-minute discussion on a single point of clarification to a ninety-minute telephone conversation covering multiple broad issues.

Table 4: Types of Informal Interview Participants

Participant Position	Number Interviewed
Educational Service Officer	1
Educational Counselors Military University	2 1
Veterans Affairs Counselor	1
CCAF personnel	2
ACE personnel	2
SOC personnel	1
Military Students	2
TOTAL	12

### Pilot Study

The interview guide, as described further in the next section, was piloted with three educational counselors who had extensive experience with both the military and higher education during the week of September 25, 1998. Each encounter lasted approximately 45 minutes. Consistent with Glesne and Peshkin's (1992) recommendation, the intent of the pilot was to improve the format. Participants were asked whether the questions were clear, whether the questions were appropriate, and what additional questions should be asked. Minimal modifications were suggested and made accordingly. As expected, actual formal interviews provided on-going opportunities for learning and revision. For example, a participant might be asked to comment on an observation made during a prior interview. This flexibility was desired and intentionally built into the study.

### Data Collection

During September and October, 1998, emphasis was placed on identifying potential research sites and obtaining access. Obtaining access was somewhat more time consumptive than anticipated for a number of reasons. First, given their busy schedules, simply reaching institutional leaders proved to be difficult. Second, decision-making related to access was often delegated to other administrators which lengthened the process. Third, access approval was further delayed by the need to address institutional concerns related to such things as

administrative time commitment and anonymity. Delays are to be expected however. As Glesne and Peshkin (1992) pointed out,

...unless researching your own backyard, you are external if not alien to the lives of the researched. You are not necessarily unwanted, but because you are not integral to the lives of your others, you are dispensable. You will complete your research tasks, but normally later than you expect. (p. 28)

While waiting for access decisions to be resolved, these months were used to: (a) pilot the interview guide as described before, (b) continue review of related literature, and (c) examine documents in the public domain as described further later. Final approval was obtained from two institutions by the end of October. Approval from the third institution followed in mid-November. Strategies relative to data collection on site are discussed next.

### Interviews

Interviews allow for the discovery of things that cannot be directly observed, and are an essential source of case study evidence; well-informed respondents can provide important insights (Glesne & Peshkin, 1992; Patton, 1990). Open-ended questioning was selected as the primary approach to interviewing because such questions stimulate free thought and are appropriate when participant responses cannot be anticipated. When an informant is particularly knowledgeable, open-ended questioning can provide for in-depth exploration of the topic (Lincoln & Guba, 1985; Patton, 1990). This format allows respondents to probe memories, clarify positions, ventilate frustrations, and state strong opinions. More importantly elaborated responses provide the affective

and cognitive underpinnings of respondents' perceptions (Glesne & Peshkin, 1992). Patton (1980) identified three approaches to open-ended interviews: (a) the informal conversational interview; (b) the general interview guide approach; and (c) the standardized open-ended interview.

The informal conversational interview relies on the spontaneous generation of questions in the natural flow of the interview. This unstructured format generally has a goal, but no pre-established questions. The informant leads the researcher through the data (Denzin & Lincoln, 1994; Lincoln & Guba, 1985). Although this approach allows the interviewer to be highly responsive to individual differences and situational changes, conversational interviews complicate analysis, require a great amount of time to collect systematic information, and are more open to interviewer effects (Patton, 1980).

The general interview guide approach involves outlining a list of questions or issues to explore; basically the same information is obtained from each respondent. The interviewer is free to word questions spontaneously and to establish a conversational style with the focus remaining on predetermined subject areas. Overall, the guide maintains focus but permits individual perspectives and experiences to emerge (Patton, 1980).

The standardized or structured open-ended interview utilizes a series of pre-established questions carefully worded and arranged with the intention of asking each participant the same question in the same order (Patton, 1980). Structured interviews can be valuable if a limited set of responses is needed.

Overall, however, the resultant inflexibility disallows assessment of emotional dimensions (Denzin & Lincoln, 1994).

In comparing the three approaches to interviewing, the general interview guide approach was deemed most appropriate for this study. Bogdan and Bilken (1992) pointed out that comparable data across subjects is needed when conducting a cross-case analysis; thus an interview guide consisting of a series of questions related to the four primary research questions was developed (Appendix C). Consistent with this approach, the author was not limited completely to the guide's topics, and informants were afforded considerable latitude in answering questions. The flexibility this format provided was needed to elicit thick descriptions. Theory building requires these "thick descriptions" that go beyond the mere reporting of an act, to describe and probe the intentions, motives, meanings, contexts, situations, and circumstances of action. This depth also facilitates transferability decisions by the reader (Creswell, 1994; Merriam, 1988; Strauss & Corbin, 1990).

Fourteen of the 18 formal interviews were individual interviews. On two occasions, interviews were conducted with two participants. This situation resulted because the primary participant identified another institutional member whose background was thought to be appropriate for the study. Essentially, the target participant invited an additional party to join the interview. Although this was not coordinated in advanced, such proactive behavior was welcomed. Indeed, these additional participants added much to the data.

Interviews were conducted in participant offices at a convenient date and time. Although a few interviews were delayed, none had to be rescheduled. The office environment was quiet, private, and comfortable. Each session lasted approximately one hour. This time frame allowed for relaxed completion of the interview guide. More than one hour would have been an unrealistic expectation given the tight schedules of these institutional leaders. Glesne and Peshkin (1992) also cautioned that the point of diminishing returns during interviews is usually reached at the one-hour point.

Voice recordings are considered the least distracting, least obtrusive, and most comprehensive methods of collecting interview data (Glesne & Peshkin, 1992; Strauss & Corbin, 1990). After securing participant permission, all interviews were taped. Notes were taken during the interview to serve as a back up. A mechanical problem with the tape recorder was encountered during one interview; handwritten notes were invaluable in this instance.

#### Field Notes and Journals

Field notes were made immediately after meeting with each participant. Entries included salient environmental issues and non-verbal behavior that helped contextualize the session. For example, one participant's arms remained crossed throughout the interview. Along with describing this behavior, that particular field note focused on difficulties in building rapport and the impact of limited engagement on trust development. Additionally, a separate computer file served as a personal journal or diary. Thought processes, theoretical beliefs, the

need for further review of the literature, and decisions about the direction of the research were recorded in this file. Consistent with Lincoln and Guba's (1985) observation, the journaling process allowed the researcher to adjust for personal distortions entering the data.

### Documents

As a stable source of information, documents give historical and contextual dimensions to observations and interviews (Glesne & Peshkin, 1992; Lincoln & Guba, 1985). Additionally, by providing corroborating evidence, documents make research findings more trustworthy (Denzin & Lincoln, 1994; Glesne & Peshkin, 1992). Documents reviewed for this study included:

(a) undergraduate catalogs, (b) university newspapers, (c) university advertisements, (d) institutional correspondence, (e) electronic messages, and (f) internal documents specific to program development. Institutional internet home pages were explored and relevant information downloaded. Other web sites reviewed for general background information included the: (a) Community College of the Air Force, (b) Servicemembers Opportunity Colleges, (c) American Council on Education, (d) Defense Activity for Non-Traditional Education Support, (e) Carnegie Foundation, (f) Southern Association of Colleges and Schools, (g) American Association of Collegiate Registrars and Admissions Officers, and (h) Texas Higher Education Coordinating Board.

Most documents were in the public domain and, thus, easily accessible. Requested data not in the public domain primarily included statistics related to

the enrollment of military personnel, and college credit awarded and applied for military training. No request for data was denied; however, in many cases the information sought was not tracked. If hard data were not available, appropriate institutional representatives were asked for estimates.

### Analysis of Data

Interview recordings and field notes were transcribed as soon as possible after the actual interview. Transcription typically occurred within one to three days. Pertinent documents were purposely sought out early in the research process to provide further theoretical grounding for interview sessions. Documents, transcribed interviews, field notes, and journal entries yielded approximately 500 pages of text.

QSR NUD\*IST was used to aid in data analysis. QSR stands for Qualitative Solutions and Research. NUD\*IST stands for Non-numerical Unstructured Data Indexing Searching and Theorizing (QSR, 1997). Using this software, the data were organized into two interlocking subsystems: the document system and the index system. The document system contained information about every document whether imported or external. The interview transcripts were imported; other documents remained external. The index system was made up of codes or what the software package refers to as nodes. Nodes are analogous to containers for thinking.

The first step of data analysis involved repeatedly reading the transcribed text and listening to select portions of recorded interviews. This comprehensive

data review laid the foundation for segmenting documents into text units representing discrete incidents, ideas, or events. Each text unit was coded as either a node representing a main category or as “children” or subcategories of the node. For example, in examining barriers to the awarding college credit for military training, much interview discussion revolved around what a college education should represent. Such issues as developing a worldview, becoming a well-rounded person, and immersion in the community of scholars were contrasted with training, which was viewed as much more limited in scope. “College education” was identified as a node. Some of the children included “worldview,” “well rounded,” “community of scholars,” and “not training.” A line by line analysis eventually fractured all the data into manageable text units. The text units were then coded and stored at relevant nodes.

The next phase of data analysis involved arranging the nodes into a logical hierarchical order and creating an index tree. Using the QSR NUD\*IST software, as patterns emerged, nodes were collected into clusters forming little trees. As the analysis became more complex the small clusters were divided into more trees. Interpretation involved discovering linkages among and within these trees. Select index trees are displayed in Chapter IV and Chapter V.

Theoretical saturation occurs when: (a) no new or relevant data emerge consistent with the coding category, (b) no additional categories appear necessary to account for the phenomena of interest, and (c) the relationships among categories appear well established (Gall et al., 1996; Glesne & Peshkin, 1992). With each successive interview, fewer new codes were needed. Clear

patterns began emerging after five interviews. Theoretical saturation as described above was reached after sixteen interviews. The data seemed comprehensive and integrated. The remaining two interviews added richness to the data but produced only tiny increments of new information, thus validating that theoretical saturation had been achieved. Repeated review of the data and coding system yielded redundancy.

### Goodness of Data

Yin (1994) believed that although the case study is a distinctive form of empirical inquiry, many investigators have disdain for this strategy. Further, the skills for doing good case studies have not yet been identified. Certainly, the nature of data collection and analysis, by necessity, includes some degree of subjectivity (Coffey & Atkinson; 1996; Kirk & Miller, 1986). In assessing a study's vigor, Denzin and Lincoln (1994) referenced the "goodness of data" and identified a variety of helpful strategies. A discussion of methods employed to make this study as credible as possible follows.

### Personal Reflection

Strauss and Corbin (1990) noted that patterns of thinking, assumptions, and prior knowledge can influence the ability to see what is significant in the data, shape the inquiry, and impede movement from descriptive to theoretical levels of analysis. Patton (1980) stated that researchers have

a responsibility to study themselves, to examine their own paradigmatic and theoretical predispositions, and to make those

predispositions explicit. This will allow them to consider the extent to which their observations and analyses have been distorted by conscious or unconscious predispositions. (p. 277)

Glesne and Peshkin (1992) further pointed out that more trustworthy interpretations are likely if researchers are continually alert to their own biases and subjectivity. To combat the potential for bias and to test tolerance for contradictory perspectives, Yin (1994) suggested reporting preliminary findings to two or three critical colleagues. As described next, peer debriefings were employed.

#### Peer Debriefing

Weekly meetings with an experienced Education Services Officer (ESO) were conducted throughout both the conception of this study and the data collection process. During data analysis, meeting frequency was increased to two to three times per week. Two educational counselors from a non-participating, private four-year university were consulted periodically during data analysis as well. These meetings and consultations provided a forum for reflective thinking. For example, prior to data collection, ignorance and/or elitism on the part of higher education institutions were thought to be the cause for failure to grant credit for college equivalent military training. Interface with peers and on-going literature review provided the author a better appreciation of the complexity of making transfer credit determinations as well as the external restrictions placed on colleges and universities. In short, these peer debriefings helped minimize the introduction of bias into the research.

### Member Checking

Each participant was provided a copy of their interview transcript for view and approval. A letter explaining the transcription and coding process accompanied these transcripts (Appendix D). In all cases, data was verified as accurate. Although Glesne and Peshkin (1992) noted that new ideas and interpretations often occur as a result of member checking, participants provided no additional comments.

### Theoretical/Purposeful Sampling

Sampling decisions were described earlier. Care was taken to select institutions most appropriate to the research design and research questions despite their geographic separation from each other and the author's home. Efforts to schedule multiple interviews on the same day proved helpful. Nonetheless, over 4000 miles of driving was necessary to complete the data collection.

### Theoretical Sensitivity

Strauss and Corbin (1990) pointed out that theoretical sensitivity, a researcher's awareness of subtleties of meaning within the data, is derived from four sources. First, the literature provides concepts and relationships that can be evaluated against the actual data. As expected, review of relevant literature was a key strategy throughout the study. Second, professional experience can help researchers understand events and actions. To partially compensate for limited

experience relative to making college credit determinations, as described before, 12 informal interviews were conducted. Third, personal experience can also provide insight. Along with the potential for biasing the study, the researcher's military background allowed for an appreciation of the data from a perspective unavailable to non-military members. Fourth, the analytical process itself heightens theoretical sensitivity. Certainly the hours spent interacting with the data throughout the study, but especially during the analysis phase, resulted in an enhanced ability to understand and give meaning to the data.

#### Triangulation/Referential Adequacy

Yin (1994) stated that "any finding or conclusion in a case study is likely to be much more convincing and accurate if it is based on several different sources of information, following a corroboratory mode" (p. 92). At least five participants from each institution were asked the same questions. Comparisons could be made not only between institutions, but also among institutional members. Documents supplemented the data collection process and served as an additional means of triangulation.

#### Protection of Human Subjects

Permission to utilize each selected site was obtained from the institution's senior leadership. Written informed consent was obtained from all participants formally interviewed (see Appendix E). In accordance with the university's human subject protocol, the consent form included: (a) persons responsible for

the study, (b) the study objectives, (c) payment schedule (none), (d) anticipated risks (none), (e) duration of participation, (e) provisions for confidentiality and anonymity, (f) agreement to answer all future questions, (g) unavailability of treatment/financial compensation from Texas Tech, and (h) points of contact for future questions. In case study research, there are often clues that make identification of field sites and particular individuals within them possible (Gall et al., 1996). This possibility was also included on the informed consent form.

### Anticipated Findings

Prior to beginning the data collection process anticipated findings were identified. Consistent with Lewin's (1951) perspective, when forces favoring a change surpass forces favoring stability, successful organizations make adjustments and adapt. A clear dichotomy was expected between the study settings. Turning first to institutions that have adopted policies, practices and programs specific to military students, someone or something was thought to be the catalysts for institutional action. Although the origin of these catalysts was unknown, resource variables external to the organization were expected to have played a significant role in decision-making. Internally, because a critical mass of support was needed for institutionalizing an innovation, at least one change agent was expected; several change agents were thought to be more likely. Conversely, no catalysts for action were anticipated at institutions lacking policies, practices, and programs specific to military students. This inertia was expected to result from ignorance of the vigor of military training and/or fear that

acceptance of military and other forms non-traditional credit would diminish the quality of degrees. Overall, this cross-case analysis was expected to identify areas for improvement within both higher education and military systems.

### Chapter Summary

This chapter presented the methodological blueprint employed to collect research data. Chapter IV outlines the findings of this study as described and analyzed through emerging themes.

## CHAPTER IV

### FINDINGS

#### Introductory Comments

The findings section describes discoveries made and conclusions drawn from this research. This chapter contains: (a) Wolcott's (1994) perspective on transforming qualitative data; (b) a discussion of the use of themes in data analysis; (c) a review of the research purposes and questions; and (d) the findings described in terms of five core themes.

#### Description, Analysis, and Interpretation

Wolcott (1994) identified three ways of presenting qualitative data: (a) description, (b) analysis, and (c) interpretation. Description involves utilizing long passages from informants; informants essentially tell their own story. Analysis goes beyond description to identify key factors related to the phenomenon of interest and relationships among those factors. Interpretation involves trying to understand and make sense of data "beyond the limits of what can be explained with the degree of certainty usually associated with analysis" (pp. 10-11). No single combination is best. Wolcott (1994) utilized seesaw imagery to explain the appropriate proportions of description, analysis, and interpretation. Description is the fulcrum on which everything else rests. The research design and questions dictate whether description comes down heavily on either the side of analysis or the side of interpretation. The problem for this

study was to explore factors that may contribute to the acceptance or rejection of military training for college credit. Coincident with Wolcott's (1994) framework, analysis took precedence over interpretation in transforming data associated with this problem.

### Themes

Emerson, Fretz, and Shaw (1995) described core themes as recurrent or underlying patterns in the data. These themes and patterns can be used to both describe and explain phenomenon (Gall et al., 1996). Transcribed interviews, field notes, journal entries, and documents yielded approximately 500 pages of text. The coding process, as described in Chapter III, served as a prelude to the analytic inductive process of systematically searching the data and inferring that certain text units were consistent with the same theme (Gall et al., 1996; Glesne & Peshkin, 1992; Strauss & Corbin, 1990). The interview process was facilitated by the use of an interview guide based on the research questions and parallel purposes. Thus, while the findings are discussed in terms of five core themes, those themes, the research questions, and the research purposes are all interconnected.

### Research Purposes and Questions

This section addresses the research purposes and questions directly while providing a general overview of the study's findings. Findings highlighted here are explored in more detail in upcoming sections.

The first purpose was to compare the practices of awarding college credit for military training at the research sites. Similarly, the first question asked about organizational mechanisms for making credit determinations. This purely descriptive background information was provided in Chapter III comparisons of SU, IU, and CU. Variance was noted in terms of SOC membership and associated use of the ACE Guide. Programming variance was also noted specific to the availability of non-traditional degree programs that could accommodate students with applied backgrounds.

The second research purpose and associated question was related to perceptions of military training by key leaders. All participants recognized military training as valuable, and participants favorably compared military students with traditional students. Whether these learning experiences were viewed as college equivalent varied relative to individual and institutional philosophical beliefs about what a college education should represent. Military training was not congruent with the more traditional view of collegiate level learning.

The third purpose and related research question addressed factors that facilitated and inhibited the articulation of military students. Factors facilitating articulation included: (a) an organizational emphasis on relevancy in education; (b) the availability of degree programs that incorporated an occupational component; (c) the availability of faculty and staff who are knowledgeable about military training; and (d) a pre-existing organizational culture of outreach toward non-traditional learners. Factors inhibiting articulation included: (a) an organizational emphasis on traditional collegiate learning; (b) curricular

inflexibility imposed by accrediting agencies; (c) a lack of faculty and staff awareness of military training; and (d) an organizational concern that embracing non-traditional learning would adversely impact institutional reputation.

The fourth purpose and corollary research question were related to policy and practice recommendations. Findings of this research suggest that the articulation of military students can be improved if targeted strategies are employed within both higher education and military systems. Higher education institutions are encouraged to: (a) appoint a transfer coordinator/military liaison; (b) join the Servicemembers Opportunity Colleges national consortium; and (c) evaluate the need for an applied baccalaureate program. Educational Service Officers on military installations are encouraged to: (a) advocate credit by examination; (b) incorporate provisions related to acceptance of credit in memorandums of understanding with institutions providing higher education courses on military installations; and (c) counsel service-members regarding transfer credit decision-making. Military members are encouraged to: (a) begin with a long-range goal; (b) consider non-traditional degree programs; (c) maintain documentation of military educational activities; and (d) utilize testing options.

The final research question asked how the process of organizational change was evident in the evolving policies and practices of evaluating military training for college credit. Findings revealed that organizational change in the direction of implementing policies and practices favorable to military students was more likely in the presence of a pre-existing culture of outreach toward non-traditional learners. The Nadler and Tushman (1993) model, modified to give

greater emphasis to organizational values and beliefs, was a helpful framework to conceptualize the change process within higher education institutions in this study. Findings reviewed briefly here in terms of research purposes and questions will be explored in detail in the upcoming sections, which examine the five core themes individually.

### Theme One

The first theme that became readily apparent during text analysis was that military members compared favorably to traditional college students. Findings suggested that military students have many characteristics that educators value. Descriptors such as "mature," "focused," "disciplined," and "academically advanced" were commonly employed. This population was also viewed as "challenging" and "demanding." In referencing classes on military installations, one respondent stated, "Those were some of the best courses I have ever taught...They challenge you because they come in with expectations. You have to sometimes work harder than with a group of students right out of high school" (administrator #13, personal communication, December 3, 1998). Overall, as shown in Table 5, all study participants held military members in high regard.

Table 5: Frequency distribution of perceived attitudes toward military students

	Positive View	Negative View
College Administrators	18	0

In keeping with the literature on adult learners, military members typically attend college on a part-time basis. Along with this part-time status comes what Polson (1993) called an "off campus" focus. As one noted, "these people want to come in, go to class, and go home" (administrator #2, personal communication, November 2, 1998). This off-campus focus was not viewed as problematic, but rather as verification of multiple responsibilities and associated personal sacrifices necessary to attend college later in life.

Hall (1991) stated that lack of confidence is a concern often associated with adults entering higher education. Similarly, Upcraft (1996) contended that faculty need to empower students because "they seem unable to take control of situations and act much more like victims to whom things not of their choosing happen" (p. 35). Contrary to the literature, none of the respondents indicated that confidence was problematic for military members; rather, an internal locus of control was more congruent with participant descriptions.

### Summary

One of the purposes of this research was to compare the perceptions of key leaders about military training. While this purpose is addressed more specifically in the next two sections, certainly the quality of training programs is at least partially reflected in demonstrated student aptitude. While participants agreed that members of the armed forces perform as well as other students, there was no agreement about where educational experiences obtained in the

military should fit in the educational spectrum. Theme two addresses contrasting viewpoints and the impact of these variant positions.

### Theme Two

The second theme revealed that consensus about what a college education should represent was lacking. After a brief review of selected literature related to expected outcomes of higher education, attention is turned to the philosophical divisions discovered during interviews. As the analysis to follow shows, these divisions seem to revolve around the blurred distinction between education and training.

### Outcomes

Astin (1993) linked a liberal education with a variety of both cognitive and affective outcomes as depicted in Table 6. Pascarella and Terenzini (1991) further asserted that both in-class and out-of-class experiences influence attainment of such outcomes. Perhaps not surprisingly then, several participants spoke of access to a research library, immersion in the community of scholars, and residency in a university setting as essential aspects of college life (administrator #4, personal communication, November 6, 1998; administrator #2, personal communication, November 4, 1998).

**Table 6. Astin's (1993) Taxonomy of Student Outcomes:  
Type of Outcome by Type of Data**

Type of Data	Type of Outcome	
	Cognitive	Affective
Psychological	Subject-matter knowledge	Values
	Academic ability	Interests
	Critical thinking ability	Self-concept
	Basic learning skills	Attitudes
	Special aptitudes	Beliefs
	Academic achievement	Satisfaction with college
Behavioral	Degree attainment	Leadership
	Vocational achievement	Citizenship
	Awards or special recognition	Interpersonal relationships
		Hobbies and avocations

Whether or not such affective outcomes as refining one's value system and becoming good citizens are appropriate for adult students is unclear. Most research on the effects of college targets recent high school graduates. Adult learners, who developmentally have already negotiated many of the psychosocial tasks associated with young adulthood, typically seek collegiate experiences for concrete, career-related reasons (Darkenwald & Merriam, 1982; DeJoy, 1997; Richardson, Fisk & Okun, 1983; Silberman & Auerbach, 1990). As summarized nicely by one participant,

So it's a whole different set of motivational factors. They [traditional learners] are kind of dealing with the promise that is out there on the horizon. The non-traditional learner has already been out there. They know what it takes. They're saying, I came up short somehow and this [higher education] is what's going to be the answer to that deficiency in my professional life or whatever the case may be. (administrator #2, personal communication, November 2, 1998)

In discussing desired outcomes of the collegiate experience, issues of relevancy came to the forefront. Tichy and Devanna (1986) maintained that colleges and universities must consider available job markets when planning degree programs. Parnell (1992) stated that "the curriculum of the future must so integrate the instructional program that students can easily connect what they are learning with real-life success" (p. 173). One participant echoed this belief stating, "The key thing as far as any education is concerned is to prepare people to move in or up, one or the other, in their careers" (administrator #18, personal communication, December 17, 1998). Still another stated,

I think we are in a kind of time warp with education and the relevancy. There are a lot of students that have the mindset that I am going to learn on my own, or my company is going to teach me what I need to know, and they actually do spend millions of

dollars on training. We still culturally require that piece of paper. So a lot of students will come in, it is like two separate tracks. Here is learning what I need to know. Here is higher education and the credentialing process. It is kind of odd. It's off. It's not working. We have to bring those together at some point. Make the degree more relevant, what a concept. (administrator #14, personal communication, December 3, 1998)

Referring to Table 6, Astin (1993) identified credentialing and job preparation as only two of 19 potential outcomes of a college education. Similarly, most administrators in this study were uncomfortable placing undue emphasis on job preparation as a key role for four-year institutions. The discussion of education and training to follow sheds further light on why some colleges and universities mandate compliance and uniformity in a time when greater flexibility is needed to improve access to under-served populations (Crow, 1998; Hall, 1991; Trowler, 1996).

### Education versus Training

While there is little agreement as to whether or not education and training should be differentiated, and if so how; the terms are typically distinguished based on the theoretical emphasis associated with each activity (Darkenwald & Merriam, 1982). Educational programs presumably provide greater exposure to the literature and theory; training activities provide more practical hands on experience. This administrator further stated,

I often talk about education and training. Training really has to do with skills; it has to do with what a person can do. Education really is not that at all. It has to do rather than with what a person can do, it has to do with what a person is. Sort of the holistic total picture. What a person becomes by understanding more about the world in which they live and how they fit into that. So, skills training is good,

but skills training is not education...Many people can get the training they need to become contributing members to society through work that they do while in the military. The military trains them. It gets to be a little more difficult of a problem when you say is this equivalent to education within a university. Usually the answer is no.  
(administrator #3, personal communication, November 6, 1998)

This dichotomy was often cited as justification for limiting acceptance of credit for military training. As one participant stated, "I would not say that there ever has been a concern that military training is not good training. We accept that it is good, [but] it's not academic from the standpoint that the deans say it needs to be" (administrator #4, personal communication, November 6, 1998).

The subcategories associated with education and training identified during interviews are shown in Figure 3. Consistent with participants' comments, though clear distinctions were evident between these constructs, education and training were viewed as overlapping.

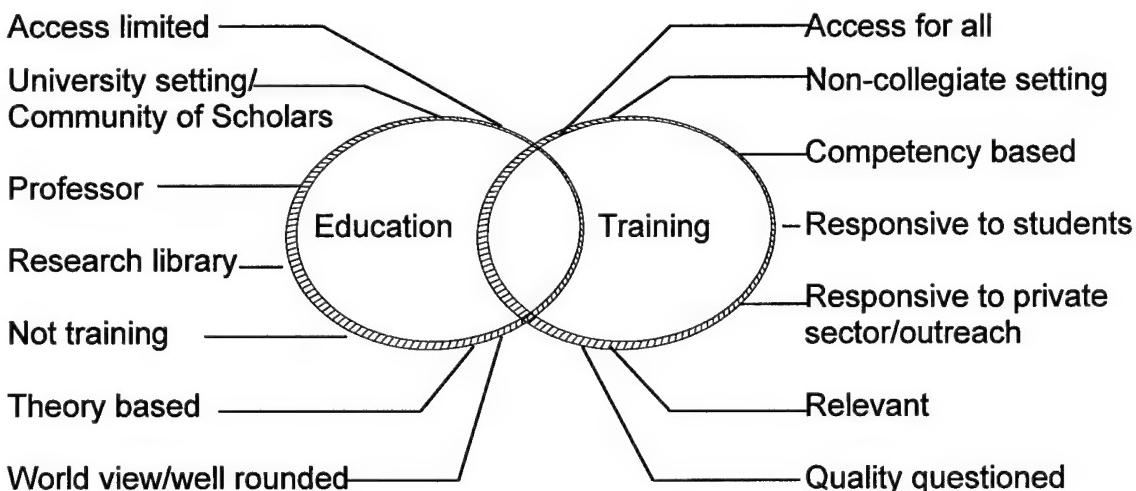


Figure 3. Education-Training Dichotomy

While many training activities are not college equivalent, a recurring theme in the literature is that greater openness to non-collegiate learning experiences is needed (Anderson & Kime, 1990; Hall, 1991; Hamilton, 1994; McCormick, 1993; Stewart, 1989). As expected, the degree of overlap between education and training evident at the research sites varied relative to organizational philosophy and values. Institutional policies regarding acceptance of credit reflected these divergent perspectives.

### Summary

This theme revealed that consensus about what a college education should represent was lacking. Some administrators questioned whether learning obtained in the armed forces was coincident with what a college education should represent. Baldridge, Curtis, Ecker and Riley (1991) concluded that goal ambiguity is one of the chief characteristics of academic organizations. Likewise, the preceding discussion exposed different philosophical beliefs among participants. The more traditional view labeled the educated person as a well-rounded individual possessing a solid philosophical foundation and worldview promoted by the literature. Military training did not fit well in this paradigm; institutions that adopted this view were more likely to limit or deny credit for these learning experiences. Non-traditional learning fit better in the alternative perspective in which relevancy was central and education served as a means to meet individual student goals such as career advancement. Exploration of these variant philosophical positions also addressed the second research purpose and

parallel question related to leader perceptions of military training. While this theme examined broad philosophical issues, the next theme explores the transfer process itself.

### Theme Three

Expeditious baccalaureate degree completion is more likely if students:

(a) begin and end at the same institution, (b) don't change majors, and (c) take courses on a full-time basis without skipping semesters. Because this route is unavailable for many adults, transfer with a minimal loss of time and credit becomes the next best option (Palmer & Ludwig, 1991). The third recurring theme revealed that effective articulation was difficult for military students because parallel programming was often lacking in collegiate settings.

Baccalaureate degrees that included an occupational component helped mitigate the loss of credit non-traditional learners, including military students, often encountered during transfer.

Multiple forces both internal and external to the organization impact transfer policies and practices. Four external forces linked with the transfer function and mentioned repeatedly during participant interviews included:

(a) state and federal intervention, (b) accrediting agencies, (c) the private sector, and (d) regional institutions. A variety of internal forces influenced articulation as well. Not surprisingly, philosophical beliefs about what a college education should represent, as reviewed in the previous theme, impacted institutional policies and practices. Three additional internal forces repeatedly identified

during participant interview included: (a) the knowledge level of organizational members related to military educational activities; (b) the presence or absence of degree programs that can accommodate technical or occupational learning; and (c) concern that increased responsiveness to non-traditional learners may adversely impact organizational reputation. These external and internal forces are depicted in Figure 4 and discussed further in the sections to follow.

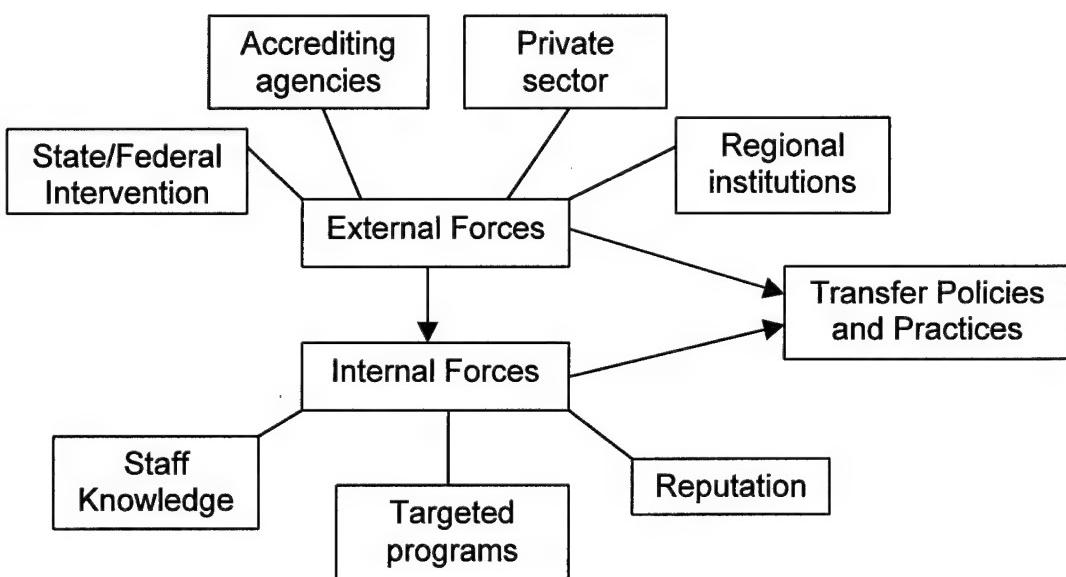


Figure 4. Interaction of factors impacting transfer

#### External Forces

State and federal intervention. Though federal and state appropriations to higher education have decreased in recent years, these revenue sources continue to constitute a major part of institutional operating budgets (Callen & Finney, 1997). Several participants described mandates designed to contain costs such as the common course number system, the core curriculum, and the 170 rule limiting the number of hours an undergraduate can take and still receive

in-state tuition (administrator #4, personal communication, November 6, 1998; administrator #11, personal communication, November 24, 1998). As discussed before, whether or not state mandates facilitate the articulation of students following a more traditional linear path is unclear given limited research (ACE, 1991; Ludwig, 1989). In this study, such policies afforded little protection for military members. Rather, Servicemembers Opportunity Colleges' principles and criteria provided an effective articulation model for military students.

Accrediting agencies. The Southern Association of Colleges and Schools (SACS) serves as the regional accrediting body for Texas higher education institutions and, as such, mandates certain standards. Additionally, specialized accrediting agencies influence transfer policies. As relayed by one participant, "The College of Engineering is driven by ABET [Accreditation Board for Engineering and Technology] certification requirements...Right now there are only a handful of hours in an engineering degree that are approved as electives (administrator #4, personal communication, November 6, 1998). In referencing another discipline, a different participant stated,

Students don't understand. We say it's going to take a 128 hours, but it has to be the right 128 hours. The way we are so structured anymore and restrictions on what we can require, electives don't fit in anywhere. (administrator #11, personal communication, November 24, 1998)

Consistent with these observations, Leatherman (1991) asserted that academic administrators have long been concerned about the excessive influence wielded by specialized accrediting agencies. Associated standards can be problematic for military students in that curricular flexibility is diminished.

Private sector. Another external factor impacting transfer was the private sector. As a whole, Hall (1991) charged that higher education has been slow to respond to the needs of industry. He pointed out that though tens of millions of Americans are participating in corporate sponsored education at a cost of hundreds of billions of dollars, "the university is vaguely aware of such programs [and] academics continue to devalue their quality and significance" (p. 79). Given shifting student demographics, Stewart (1989) maintained that colleges and universities should not ignore adults seeking post-secondary education for career advancement. Indeed, several administrators in this study discussed institutional efforts targeting local industry. The applied baccalaureate program, which will be addressed further later, was one such initiative employed by IU and CU. This participant stated,

Industry is saying we want to promote our technical people to get them into managerial positions. We want them to complete a degree. We are not going to pay for 40 [credit] hours for them to complete what they have already completed in their vocational programs. I think industry is pushing this. Certainly students are saying if I can do it for 40 hours less, I want to do that. (administrator #4, personal communication, November 6, 1998)

By most accounts, future growth and financial stability for many institutions will depend in large measure on attracting and organizing services for older students (Hall, 1991; Ludwig, 1989; Stewart, 1989). Stewart (1989) believed that military members could expect to reap the benefits of inevitable changes in the direction of accommodating non-traditional learners. As has been highlighted repeatedly, some institutions do make special efforts to assist military members. Yet, much room for improvement remains.

Regional institutions. Kintzer and Wattenbarger (1985) contended that articulation should be viewed as an attitudinal, people-oriented problem with success strongly dependent on the support and understanding of personnel from both the sending and receiving institutions. Similarly, collaboration with local community and junior colleges has proved beneficial for all study sites. For example, the step-wise process of evaluating courses from two-year institutions, described by an administrator at IU and depicted in the Figure 5, took the guesswork out of articulation for local students.

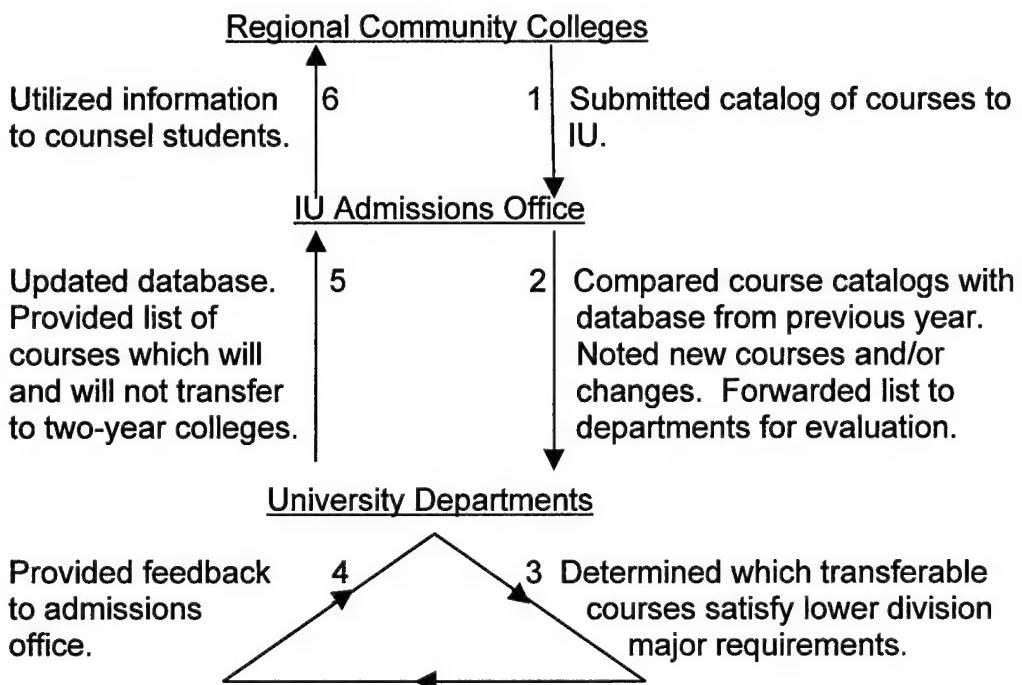


Figure 5. Six-step process of evaluating community college courses for transfer

This process, though designed to benefit the traditional transfer student, demonstrated the power of collaboration. The literature confirms that local partnerships are linked more closely to effective articulation than state mandates

(ACE, 1991; Ludwig & Palmer, 1993; Palmer, 1989). As applied to military students, Education Services Officers are arguably in the best possible position to collaborate with local colleges and universities to maximize credit awarded for military training.

### Internal Forces

Staff knowledge. While most participants themselves did not have military backgrounds, several cited faculty with such credentials as helpful to the evaluation process. One administrator stated, "They try to use more credit than other people would, they are not afraid of it" (administrator #11, personal communication, November 24, 1998). Because faculty with military backgrounds were not considered the norm, all respondents identified inadequate staff knowledge as a potential deterrent to effective articulation. Several spoke of not being familiar with the ACE Guide (administrator #5, personal communication, November 10, 1998; administrator #7, personal communication, November 17, 1998; and administrator #10, November 24, 1998). This administrator stated,

I think it is a lack of awareness, lack of information. You are always suspicious about something you don't know. You have to talk cultures. We know what we do here. We trust that it meets some standard. We don't know what you do there. Is it the same number of hours? Are the same objectives met? Also, I think the average advisor or counselor, I'll speak for myself, I'm not aware of the kind of training you would have. I would think, what did you do in the military? (administrator #14, personal communication, December 3, 1998)

Differences between services complicated the situation; training of Air Force members was documented on an official transcript while the other service

members received documentation reflecting recommended credit. This administrator noted, "All of those pieces fit together. The difficulty is that it is not a straight line. For some of the institutions that are not very familiar with the system...it is a little more complex and out of the ordinary" (administrator #17, December 7, 1998).

As expected, participant understanding of educational activities within the armed forces varied relative to exposure to military students and involvement in the assessment process. One particularly noteworthy practice was the utilization of a transfer coordinator. IU had such an institutional expert who reviewed all military transcripts and awarded credit in accordance with local policies and procedures. Though credit application decisions were made within each department, this liaison served as a resource for both students and faculty.

Targeted academic programs. Assuming an institution accepts CCAF credit and ACE Guide recommendations, as CU and IU do, the next step is application. Military educational efforts are significantly, though not exclusively, directed at preparing new recruits for their occupational specialty. Though some programs, such as military language schools, match-up quite nicely, college administrators reported an overall poor correlation between most military programs and traditional four-year degrees. As one participant stated, "There are always those great big chunks of radio technology that are totally useless, but it's there. It puts them into at least a sophomore level" (administrator #14, personal communication, December 3, 1998).

Related to military students, but not specific to them, is the issue of how applied associate degrees parallel traditional four-year programs. Reportedly, the focus of applied courses makes articulation difficult.

If you are going to try to put those [applied courses] on a bachelor's degree then you better make sure that they have the prerequisite math and science so they can be equated to what the bachelor's degree requires. The student is left on a different pathway. It's such different approaches, such different worlds, that sometimes the student who has done those two years thinks they are in route to a bachelor's degree [but discovers that] those first two years can not transport...They were never designed along that spectrum. (administrator #15, personal communication, December 3, 1998)

One alternative that several Texas higher education institutions, including CU and IU, have adopted is the applied baccalaureate degree. These degrees are personalized and designed to meet individual student needs. A typical degree plan includes: (a) an academic foundation or general education component; (b) an area of specialization that typically mirrors the student's occupational background; and (c) a professional enhancement or development area (Bankhead & Martin, 1998). CU's presence on or near several military installations allowed many service members to take advantage of this option. IU's program was heavily utilized by local community college graduates. Certainly, military members and others with technical or occupational backgrounds are not limited to such degrees; however, such programs present an attractive alternative to what often amounts to starting over. One respondent speculated that articulation might improve for these students, stating

I think eventually the entire educational framework will catch up to where vocational education is today...For sheer survival ultimately most institutions, with the exception of the Harvards,

Stanfords, and Purdues, are going to buy into that concept of integrating both kinds of learning and therefore accepting credit. I really hope, and I think that that's where we will be headed in the next twenty years. (personal communication, administrator #17, December 7, 1998)

Calls for curricular flexibility coincident with the previous passage can be found in the literature for the past decade. The changing higher education landscape driven by such things as (a) technology, (b) shifting student demographics, and (c) finances seems to have produced a heightened sense of urgency to deal with the problem. As cited previously, up to half of all community college students who transfer to four-year institutions come from occupational programs; therefore, the need to articulate vocational-technical programs with baccalaureate programs seems irrefutable (Barkley, 1993; Bender, 1991; Cohen & Brawer, 1996; Fredrickson, 1998).

Reputation. Stewart (1989) maintained that the proliferation of diploma mills coupled with quality control emphasis in post-secondary education has stiffened resistance to anything perceived as non-traditional. This participant echoed that assertion stating,

Most traditional educators are used to highly traditional programs. The first reaction they have when you talk non-traditional education is to frankly turn their nose up a little bit. They don't know anything about it. I think another thing that falls in line with that, we are all in the business of building the best reputation we can. When you see the paper mills that exist today, there are schools that are out there that are unaccredited and giving away degrees and diplomas. I think a lot of schools are remiss in taking the step because they fear that they will be perceived as one of those paper mills.  
(administrator # 2, personal communication, November 4, 1998)

Closely linked with reputation, and very much related to the prior theme about what a college education should represent, is the educational hierarchy.

Conceptualized as a ladder, Ivy League research universities occupy the top rungs; occupational education within community colleges is relegated to the bottom rungs. Non-traditional learning in general, but especially learning that has a technical-vocational focus is often linked with community colleges (London, 1992). Again, depending on one's philosophical perspective, occupational learning experiences may not measure up.

### Summary

The third theme revealed that the linchpin of articulation, comparable curriculum, negatively impacted military students; parallel programming was often lacking in collegiate settings. By identifying multiple forces both internal and external to the organization impacting transfer, this theme also addressed the third research purpose and coincident question dealing with factors that facilitated and inhibited articulation of military students.

Three factors that inhibited effective articulation were discussed. First, accrediting agencies imposed curricular standards that decreased institutional flexibility. Second, faculty and staff were often unfamiliar with military training. Third, a concern existed that embracing non-traditional learning would adversely impact institutional reputation.

Two factors were presented that may help traditional transfer students and, thus, indirectly benefit military members. First, for a variety of reasons, not the least of which is cost-containment, state and federal agencies have established a number of rules designed to promote smooth student movement

between institutions. Second, some colleges and universities worked closely with the private sector to help meet corporate needs, which often paralleled the needs of military students.

Two factors that facilitated the articulation of military members were considered. First, baccalaureate degree programs that incorporated a technical component helped because much military training has an occupational focus. Second, knowledgeable faculty and staff smoothed the way for military members. Particularly beneficial was the use of a transfer coordinator or designated institutional expert to serve as a liaison for faculty and military students.

Additional facilitating and inhibiting factors identified in previous thematic discussions and the review of literature will not be reiterated here. Taken together, the clear conclusion was that transfer credit decision-making is a complex multi-factorial process. In light of the articulation challenges reviewed in this section, significant institutional variation with regard to awarding college credit for military training, though problematic, is perhaps expected. The next theme explores this variation in more detail and links findings with an organizational change model.

#### Theme Four

A brief history of each institution's approach to managing military students is described in the sections to follow. The fourth theme was exposed through examination of similarities and differences across institutions. This theme revealed that change in the direction of implementing policies and practices

favorable to military students was more likely in the presence of a pre-existing culture of outreach toward non-traditional learners. Nadler and Tushman's (1993) organizational model was modified to coincide with research findings and is presented as a useful framework to view the change process.

### Scarlet University (SU)

Each of the preceding thematic discussions highlighted the need for greater flexibility in assessing and recognizing non-collegiate learning. Similarly, this SU participant stated,

I think we are entering a new period in education, a period where we are going to have to consider a whole lot of things. We have to recognize that people learn in a whole lot of different ways...So we are going to have to change the way we feel about some things. We are going to have to begin to accept more of a variety in the way people learn and give people credit for this toward degrees. Exactly where that's all going to fall out is hard to say...So, there are problems to be worked out, and I think among them, how do we educate different types of people from different walks of life. Like the military, business has the same problem. We are seeing the same thing that you are talking about. A lot of the training that has taken place for years in the military is now taking place in business. Xerox has a huge university. Education is getting some competition from the private sector. So, a lot of changes are going to be taking place. (administrator #3, personal communication, November 6, 1998)

The projected need for increased openness to military students and other non-traditional students relayed in the previous passage has yet to be realized. Total enrollment of active duty members was estimated at less than one percent of the study body. CCAF credit was accepted, but the ACE Guide was not used. Though not a Servicemembers Opportunity College (SOC), there has been recent increased interest in some of the consortium's programs, promoted

primarily by one senior administrator. Whether or not this heightened interest will eventually translate into a policy change benefiting military members was difficult to predict. Currently, administrators are reviewing the ACE Guide, a reasonable first step since SOC membership in part rests on recognizing and using this source. While participants voiced a willingness to examine the issue, overwhelming support for change was not evident.

#### Ivory University (IU)

IU provided a limited number of graduate courses on one military installation. Total enrollment of active duty members was estimated at less than one percent of the study body. As mentioned previously, IU only recently joined SOC, but the university has awarded credit for military training based on ACE Guide recommendations for many years. With support from administrative leaders, a change agent within the organization not only linked policy with practice, but also increased awareness throughout the state.

What we also found was that more and more institutions of higher learning in Texas were looking to us to set a standard or example and were therefore calling us quite frequently wanting answers to questions about what do you do about this, that, or the other thing. So, what we did this past year, we hosted two different military conferences on campus for the entire state. One was basically how to read the ACE Guide. We had [name deleted] come down from Washington DC. She facilitated that meeting...lots of good feedback from that meeting. It lessened the phone calls we were getting here. They will come down and do those workshops at no cost. Then we had [name deleted] from Washington DC come down and kind of give us a synopsis of what a SOC college is and how to become a SOC college. We had a good turn out, about 25 participants coming from all over the state. A lot of questions were answered. I think a lot more schools will come on board and start participating...We work extremely hard with our military personnel to

grant them as much credit as we can. (administrator #9, personal communication, November 24, 1998)

Joining the consortium has been beneficial for this organization in two ways. First, the university received added publicity through various SOC publications. Second, IU became an active participant in SOC's Concurrent Admission Program (ConAP). Under this program, Army recruiters help new accessions apply for admission to college. Qualified soldiers are admitted to college, in this case to IU, with actual enrollment deferred until after discharge (Anderson, 1996). Because IU is in a large metropolitan area, the number of recruiters that could potentially interface with the institution is significant.

When asked to explain institutional concern for military students and other non-traditional learners most participants spoke of two issues: enrollment and outreach. One administrator stated,

I think most universities...are always looking for new ways to maximize their enrollment. In that sense you would have continuing interest in expanding things to different markets...Even our mission as a metropolitan research institution is very much involved in outreach. It's not total here; we are a big complex place with various points of view. But I certainly think that the viewpoint of the outreach, that has multiplied over the years.  
(administrator #16, personal communication, December 3, 1998)

Consistent with the previous passage, higher education institutions certainly must be cognizant of enrollment opportunities. Though IU embraced part-time adult students, Hall (1991) contended that within higher education as a whole, if given a choice, faculty would move away from providing services to this population. Declining traditional student enrollment disallows that possibility for most institutions.

As discussed in the third theme specific to the transfer function, the overall linkage between much military training and traditional collegiate experiences is considerably limited. Thus, though credit acceptance at IU was excellent, application remained problematic in traditional degree programs. The Bachelor of Arts in Applied Science was an option for those who elected to live in the vicinity of IU after completing their military commitments.

### Crystal University

As discussed earlier, a number of higher education institutions in Texas now offer applied baccalaureate degrees (Bankhead & Martin, 1998). CU was among the forerunners; their program dated back about 25 years. In assessing why CU developed a non-traditional degree early on, participants referenced a trailblazer spirit and a "culture of outreach" (administrator #1, personal communication, November 2, 1998; administrator #8, personal communication, November 18, 1998). This administrator stated,

We have just decided that there is a need for higher education to be more accessible. We will go out and offer classes at community centers to try to get people involved in higher education; they are not going to come to us...So that's the basic philosophy, to make it more accessible, particularly to working adults...You have to look at what the community needs. There are only about 25% of people who finish a degree if you look at the adult population. If you make it more difficult for them to do it, there will never be an opportunity for most people to pursue higher education. I don't think the public will stand for that. Colleges and universities depend on the taxpayers. They can't shut the door on the working population...I think you will find that at all universities are catering more to working adults, but they are catering in terms of fitting in into the traditional format.  
(administrator #18, personal communication, December 17, 1998)

Like this respondent, the importance of making higher education more accessible was reiterated by all CU participants. Introducing programs to meet the needs of working adults, though accepted practice today, was quite unconventional in the early 1970s. Participants linked faculty acceptance with the program's success. As reported by one administrator,

Twenty-five years ago no one was doing non-traditional education. These people had no antecedents from which to draw; it was all brand new. They had to really change their mindset and change the way they evaluated things. You kind of had to get them to a point, as with any evolutionary change, you had to get them to the point of buy in...I think that's the big thing. I think many schools have tried non-traditional education, but they could never fight the wars internally to get it to where everyone was a believer. It is hard to do that. It is hard to manage that change and get it to the point where it needs to be, where everyone is supportive of what you are trying to do...Today it is pretty much accepted as a quality program. (administrator #2, personal communication, November 4, 1998)

Consistent with these comments, inclusion of key personnel in decision-making is a recurring theme in organizational literature (Bennis, 1989; Jick, 1993; Roueche, 1989). As applied to higher education, Clark (1991) warned that ideas will not be expanded over the years or reflected in performance unless ranking and powerful faculty members commit to them.

In terms of CU's alliance with the military, in the early 1970s educational personnel from a military installation in West Texas were seeking a baccalaureate program that included an occupational component to facilitate the articulation of assigned military members. For a variety of reasons, the few public institutions offering like programs at the time were unable to meet the military's need. CU was willing to work with the military to provide the desired undergraduate degree. In 1974, 55 students enrolled. The program has grown

and evolved over the years. Currently, over 400 students are enrolled at that center alone (administrator #8, personal communication, November 18, 1998).

CU's early success with military students planted the seed for further outreach. As stated previously, CU now operates several centers geographically separated from the main campus. Most of these centers are located on or near military installations; consequently, military students account for approximately 50% of the total enrollment for the university. Overall, the relationship between this institution and the military has been mutually beneficial.

### Theoretical Connections

Prior to the data collection phase of this study, Lewin's (1951) force-field analysis and three-step change model was favored as an explanatory theoretical framework. This research highlighted the importance of such things as philosophical beliefs about collegiate education, staff knowledge about military education and training activities, codifying organizational behavior into policy, and faculty acceptance of curricular change. Nadler and Tushman's (1993) conceptualization of organizations was much more consistent with the findings of this study.

The Nadler and Tushman (1993) model, which consists of two major elements, views organization as complex systems that produce output in the context of an environment, an available set of resources, and history. The first major element, strategy, is the pattern of decision-making relative to how resources will be deployed in response to environmental opportunities and

threats. As applied to this study, both IU and CU employed a strategy of outreach in response to an environmental opportunity: penetrating a different market. The second major element, organization, includes four core components: work, people, formal structures and processes, and informal structures and processes. As depicted in Figure 6, the key to organizational effectiveness as well as effective organizational change is congruence among these four components (Nadler & Tushman, 1993).

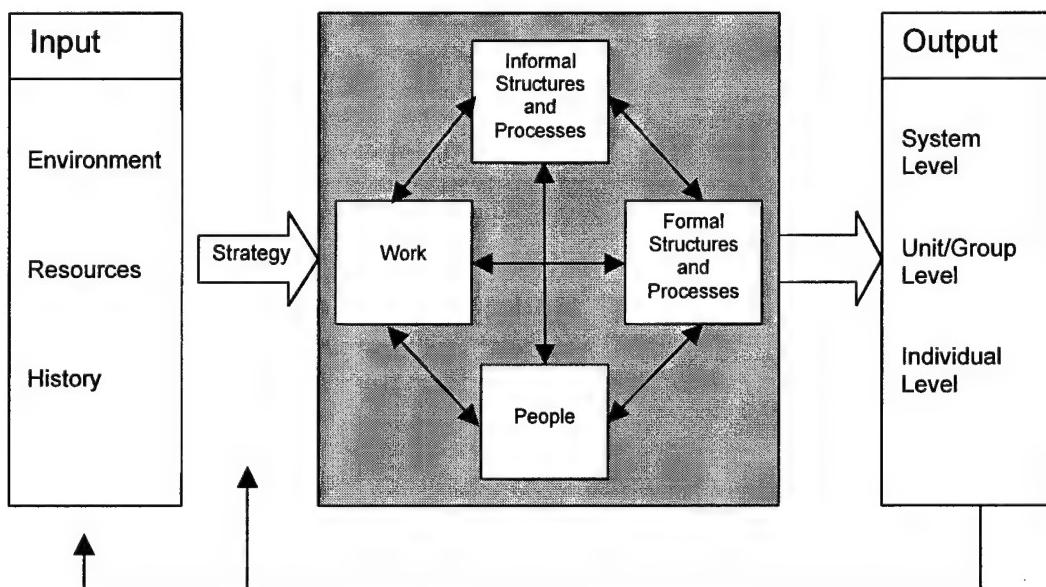


Figure 6. Nadler and Tushman's (1993) Organizational Model

As applied to this study, work involved all activities associated with the assessment of military training for college credit. People were those involved in the decision-making process. This varied organization to organization, but generally included admissions personnel and faculty. Formal structures encompassed relevant organizational policies and programs. Policies allowing or

disallowing credit acceptance were generally delineated in the undergraduate catalog. Programs particularly helpful to military students included applied baccalaureate degrees. A culture of outreach to non-traditional learners was found to be the most relevant informal structure.

In this framework, informal processes and structures might encompass anything from unwritten norms about communicating with the President to social networks to customs to organizational values and beliefs. Research findings suggested that because values and beliefs pervaded all aspects of institutional operation, these constructs required greater prominence. The model was modified accordingly as depicted in Figure 7.

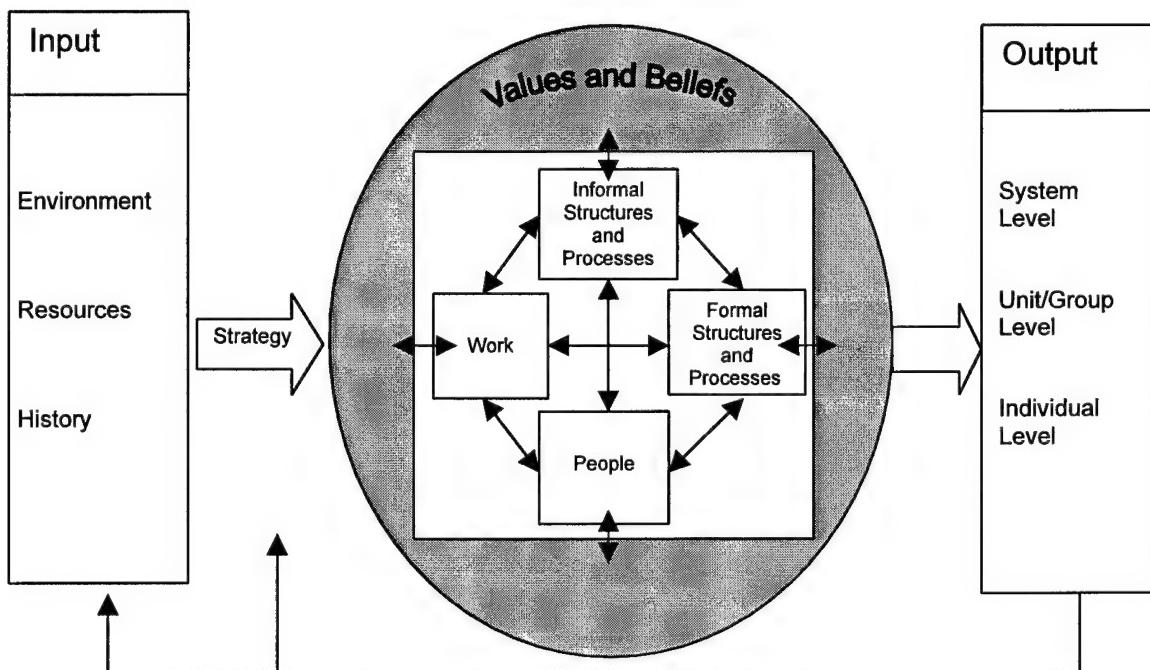


Figure 7. Modified Nadler and Tushman's (1993) Organizational Model

Consistent with this modified model, those wishing to implement academic change are advised to examine the proposed innovation from a holistic perspective. In general, if there is congruence among organizational components to include institutional values and beliefs, the potential for success is heightened. Conversely, this research revealed that awarding credit for military and other non-traditional learning was often not coincident with organizational values and beliefs. Thus, the potential seemed limited for more traditional institutions to rapidly change in the direction of adopting practices beneficial to military students. Although the higher education landscape is changing, in the immediate future military students may be best advised to seek out colleges and universities with a proven track record of facilitating the articulation of service members.

### Summary

This theme addressed the first research question and purpose dealing with organizational practices of awarding college credit for military training. In comparing the three institutions, variance was noted in terms of SOC membership and associated use of the ACE Guide. Programming variance was also noted specific to the availability of non-traditional degree programs that accommodate students with applied backgrounds. This theme also addressed the research question number five dealing with organizational change. A review of the policies and practices specific to military students at each research site revealed that organizational change in the direction of implementing policies and

practices favorable to military students was more likely in the presence of a pre-existing culture of outreach toward non-traditional learners. The Nadler and Tuschman (1993) model was modified to portray the pervasive influence of values and beliefs on organizational decision-making.

As discussed before, a recurring theme in the literature is that higher education institutions are notoriously change resistant (Hall, 1991; Levine, 1980; Rose, 1990). As explored in the next theme, the explosive growth in electronic communications is radically and rapidly changing the operations of most colleges and universities.

### Theme Five

The fifth theme revealed that technology was driving significant changes within higher education that should benefit military students and other non-traditional learners. By all accounts technology will certainly be the key source of breakthroughs in educational innovation for the remainder of the century (Hall, 1991). Much has been written about the use of technology as a medium for higher learning; thus, this finding would not be surprising except for the absence of any questions related to technology on the interview guide. As discussed before, the interview guide focused on predetermined subject areas but allowed participants to explore related issues. In discussing organizational change, technology entered into many discussions, especially with administrators from SU and IU.

Coding of transcribed text specific to technology yielded the index tree depicted in Figure 8. While a more complex tree probably would have been evident had participants been questioned directly about this subject, relevant here is that technology deployment seemed to be on most administrators' mind.

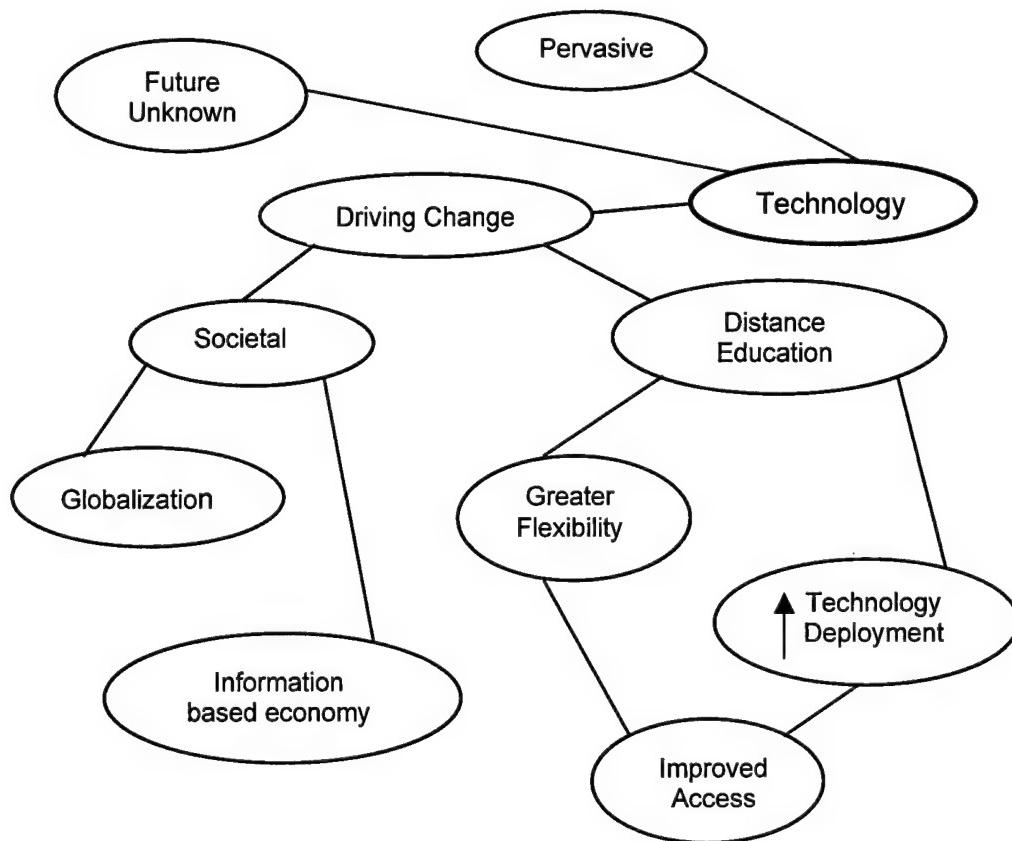


Figure 8. Technology Index Tree

In general terms, participants spoke of the pervasive influence of technology within both society and higher education. Several administrators linked technology with the global economy and the Information Age. This participant stated, "We are no longer a manufacturing-based economy. We are an information-based economy. People are paid now for their intellectual

property. They are paid for how much they know, how much they can contribute" (administrator #3, personal communication, November 6, 1998). Similarly, another respondent stated, "Getting a degree now is not as important in some respects as being able to access information and being a life-long learner" (administrator #13, personal communication, December 3, 1998). Although technology provides the flexibility necessary to overcome the barriers of time and distance, and holds great promise as one means to meet the needs of the twenty-first century workforce, the relentless pace of associated change can be disconcerting. One administrator stated, "I don't even think we know what we are going to look like in two to three years" (administrator #10, personal communication, November 24, 1998). Another stated, "It scares me a little" (administrator #3, personal communication, November 6, 1998). While the future is impossible to forecast with any specificity, Gallick (1998) noted that state and federal legislatures have increased technology funding at all levels. In most institutions of higher learning, the use of technology should continue to expand. This administrator stated, "The use of distance education or distributed learning has gone to a hundred or more courses. Two years ago it was very few. It's just phenomenal" (administrator #10, personal communication, November 24, 1998).

Learning distributed by distance technology is non-traditional in many ways. Referring to the education-training dichotomy discussed in theme two and reexamined in Figure 9, distance education, though a hybrid, has more characteristics of training than education in the purest sense. Yet, distance courses are offered for credit. Referring to theme three, which emphasized

comparable curriculum, technology is simply an instrument; distance courses parallel those offered on campus.

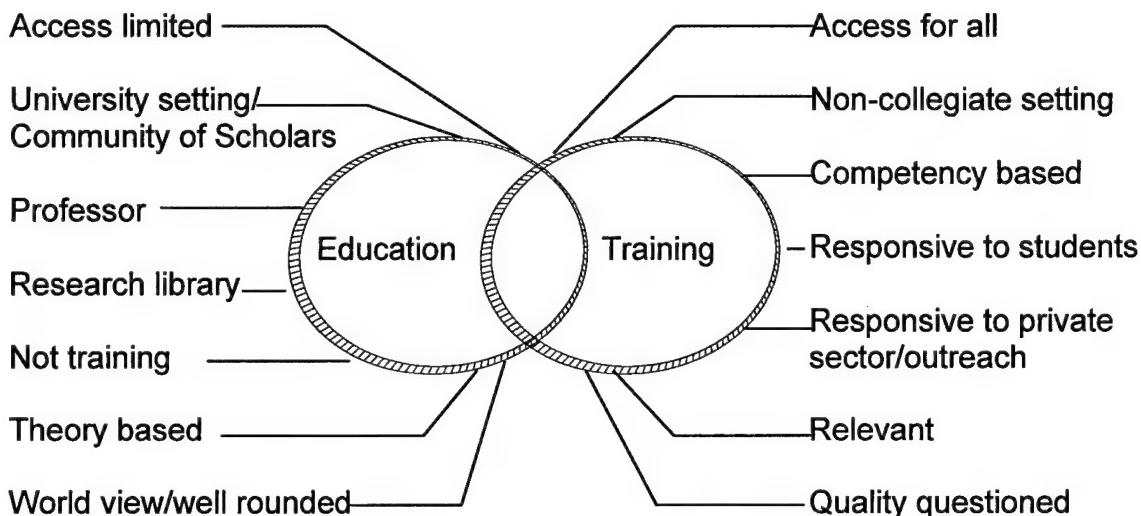


Figure 9. Education-Training Dichotomy

In terms of military members, the General Accounting Office (1997) estimated that the Department of Defense may spend as much as two billion dollars over the next ten years on distance education. Questions about whether military-sponsored learning activities are college equivalent will continue, whether the learning occurs at a distance or not. With this type of monetary investment, perhaps the infrastructure will be such that interface with collegiate distance programs will also be a possibility. Additionally, as technology becomes more widespread, access to accredited courses on the Internet will be an option for most military members. As a cautionary note, over ten years ago Stewart and Spille (1988) identified military members as being particularly vulnerable to diploma mills. More currently, Guernsey (1997) maintained that diploma mills operating on the Internet have proliferated. Service members need to be aware

of such mechanisms as accreditation as a means to differentiate legitimate distance education with unscrupulous vendors.

### Summary

This theme revealed that technology was driving significant changes within higher education, and like the previous theme, addressed research question number five dealing with organizational change. Though not a panacea, technology can improve access by providing a means to serve students who can not attend regularly scheduled classes on campus. In this study, technology was essentially providing both the driving force and the vehicle for outreach to non-traditional learners. As discussed previously, this research suggested that change favoring military students was more likely if outreach to non-traditional learners was an integral part of an organization's culture. Distance education seems to be pushing colleges and universities in that direction.

### Chapter Summary

This chapter focused on research findings described in terms of themes. Prior to that discussion three foundational subject areas were covered. First, Wolcott's (1994) perspective on transforming qualitative data using description, analysis, and interpretation was reviewed. The nature of this study was such that description and analysis received the greatest emphasis. Second, the use of themes to describe underlying patterns in the data was examined. Analysis of

data revealed five core themes. Finally, an overview of the research findings as related to the research purposes and questions was provided. The research questions and purposes were also integrated into the thematic discussions.

After reviewing the preliminary topics, attention was turned to the five core themes. First, military members compared favorably to traditional college students. Second, consensus about what a college education should represent was lacking. This philosophical division limited organizational responsiveness to military students. Third, the linchpin of articulation, comparable curriculum, negatively impacted military students; parallel programming was often lacking in collegiate settings. Non-traditional baccalaureate degrees that included an occupational component were helpful. Fourth, organizational change in the direction of implementing policies and practices favorable to military students was more likely in the presence of a pre-existing culture of outreach toward non-traditional learners. Fifth, technology was driving significant changes within higher education that should benefit military students and other non-traditional learners. Chapter V to follow contains a comprehensive summary of the study. Policy recommendations and suggestions for further research are presented as well.

## CHAPTER V

### SUMMARY, MAJOR FINDINGS, DISCUSSION, RECOMMENDATIONS, CONCLUSIONS

#### Introductory Comments

This chapter begins with a study summary. Major findings are reviewed followed by a discussion of the implications of those findings. Finally, recommendations for further research and conclusions are provided.

#### Summary

The military has always had a strong commitment to training. As the technology of war fighting became more sophisticated, so too did the preparation of soldiers. The notion that higher education institutions should award college credit for much military training dates back to World War II. At that time, a variety of instructional strategies and competency assessment tools were developed to stem the tide of veterans accessing higher education using the GI Bill (Rose, 1990). Many of the strategies, such as correspondence courses, and tools, such as credit by examination and the American Council on Education's Guide to the Evaluation of Education Experiences in the Armed Forces, are still in use (ACE, 1996; Rose, 1990).

Today, while a complex network within the Department of Defense supports voluntary education, comparatively small numbers of enlisted members complete undergraduate degrees (DoD Voluntary Education Program, 1998).

One key factor related to student persistence and degree completion is institutional transfer credit decision-making (Wright et. al., 1996). Research is limited, but suggests that colleges and universities are generally reluctant to award credit for military training, even when American Council on Education recommendations are available. Credits that are awarded are typically applied as electives (Cangialosi, 1981; Palmer & Ludwig 1991; Stewart, 1989).

The problem for this study was to explore factors that may contribute to the acceptance or rejection of military training for college credit. The purposes were to: (a) compare the practices of awarding college credit for military training at three, Texas, four-year higher education institutions; (b) compare the perceptions of key leaders at three, Texas, four-year higher education institutions about military training; (c) profile factors which facilitate and inhibit the articulation of military students into three, Texas, four-year higher education institutions; and (d) provide recommendations for policies and practices related to the award of college credit for military training. Research questions paralleled these purposes.

A multiple case study research design was employed. Three institutions with demonstrated divergent practices with regard to recognizing military training were selected for the study. These institutions were identified as "Scarlet University" (SU), "Ivory University" (IU), and "Crystal University" (CU). Administrators involved in the development and/or implementation of relevant policies and/or programs constituted the participant sample. Eighteen formal and 12 informal interviews were conducted. Other sources of data included

documents, field notes, and reflexive journal entries. Data were coded and analyzed with the aid of a qualitative software package.

### Major Findings

Key findings are summarized in this section. Data analysis revealed five themes. The discussion to follow reveals how these themes are connected to existing literature, and how the findings add to the literature and to the solutions for this transfer problem. As highlighted throughout this study, the blending of these themes also addressed the research purposes and questions.

#### Theme One

The first theme revealed that military students compared favorably to traditional students. Figure 10 delineates adjectives repeatedly used to describe military students. Administrators relayed absolutely no negative perceptions.

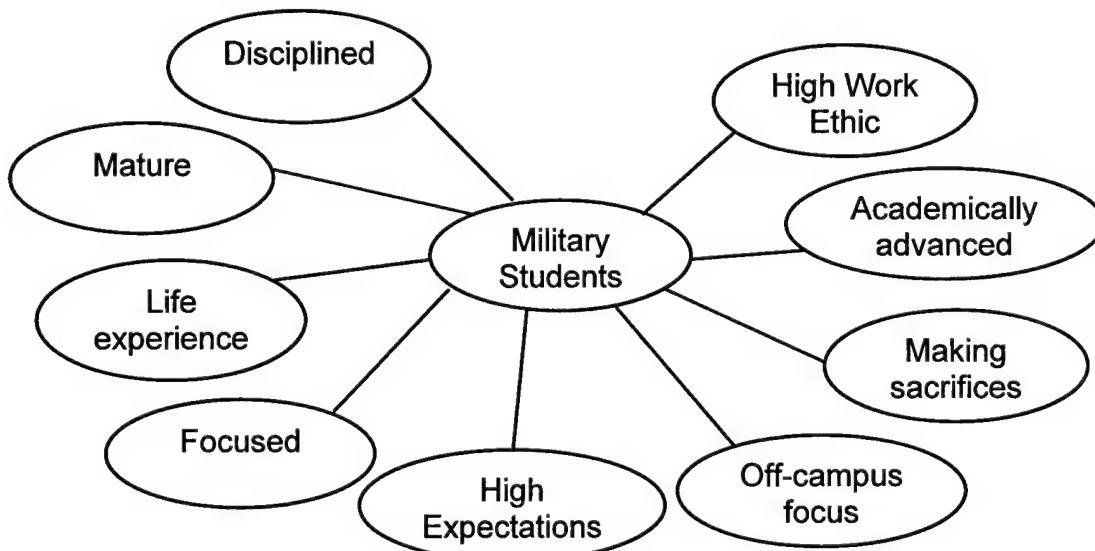


Figure 10. Military Students Index Tree

The literature suggests that a very similar index tree would have resulted had participants been questioned about adult students in general. Adults bring maturity to the classroom; consequently, they tend to be highly motivated, speak their minds, and treat faculty as peers (Hall, 1991; Hamilton, 1994). Because these learners generally have multiple responsibilities, they tend to complete their education on a part-time basis, and expect services to be made available at convenient times and locations (Conrad, 1993; Hall, 1991). From the standpoint of motivation, adults typically seek higher education to address specific, often career-related, goals (Conrad, 1993; Polson, 1993). In terms of success, a common stereotype is that the aging process negatively impacts academic performance. Conversely, Richardson and King (1998) found no compelling evidence indicating that adults either lack the skills necessary for effective study, or experience learning difficulties because of age-related impairments. Although the literature generally supports the notion that adults do well in college, Thiel (1984) noted that this population faces situational and dispositional barriers that discourage them from enrolling in post-secondary programs. Once enrolled, Hall (1991) reported that confidence can be problematic, at least initially, because these learners often have either no experience at all, or no recent experience with higher education.

Overall, findings specific to military students were generally consistent with the literature on adult learners. Like most adults, military members had many characteristics that educators reportedly valued. Somewhat inconsistent with the literature, assessment of military students was universally positive; no

concerns of any kind were raised. Little research specific to military members themselves has been published, eliminating the potential for comparative assessment. While all participants concurred that men and women in the armed forces were high caliber students, agreement about whether military training was college equivalent was wanting. The next theme examined philosophical issues that helped account for this inconsistency.

### Theme Two

The second theme revealed that consensus was lacking about what a college education should represent. The more traditional perspective linked a liberal education with a variety of cognitive and affective outcomes such as enhanced critical thinking skills and the development of a personal value system (Astin, 1993; Pascarella & Terenzini, 1991). Similarly, several participants felt that immersion in the academic environment provided students a unique opportunity to develop a solid personal philosophical foundation and worldview. From this perspective, college graduates should be not only well schooled in their academic discipline, but also well-rounded citizens.

Alternatively, some study administrators advocated greater relevancy in collegiate learning. Indeed, higher education has been criticized for not looking beyond the ivy-covered walls (Crow, 1998; Hall, 1991). Arguably, such things as available job markets and integrating real-life issues into the curriculum should receive greater attention (Tichy & Devanna, 1986; Parnell, 1992). As has been highlighted before, relevancy is central for goal-oriented adults (Polson, 1993).

In terms of military training and other non-collegiate learning, the education and training dichotomy came into play as well. These constructs are often distinguished by associated theoretical emphasis (Darkenwald & Merriam, 1982). While training activities focus more on demonstrated competence, educational activities presumably provide greater exposure to theory and literature, and are thus more coincident with college level learning. Although the literature draws distinctions between education and training, most authors highlight the interrelated nature of the two constructs (Anderson & Kime, 1996; Davis, 1993; Gottron, 1991; Hall, 1991; Watson, 1979). Similarly, participants in this study viewed the terms as overlapping as shown in Figure 11. However, those holding a more traditional perspective viewed the amount of overlap as minimal. Those placing greater emphasis on relevancy in collegiate learning viewed education and training as much more integrated.

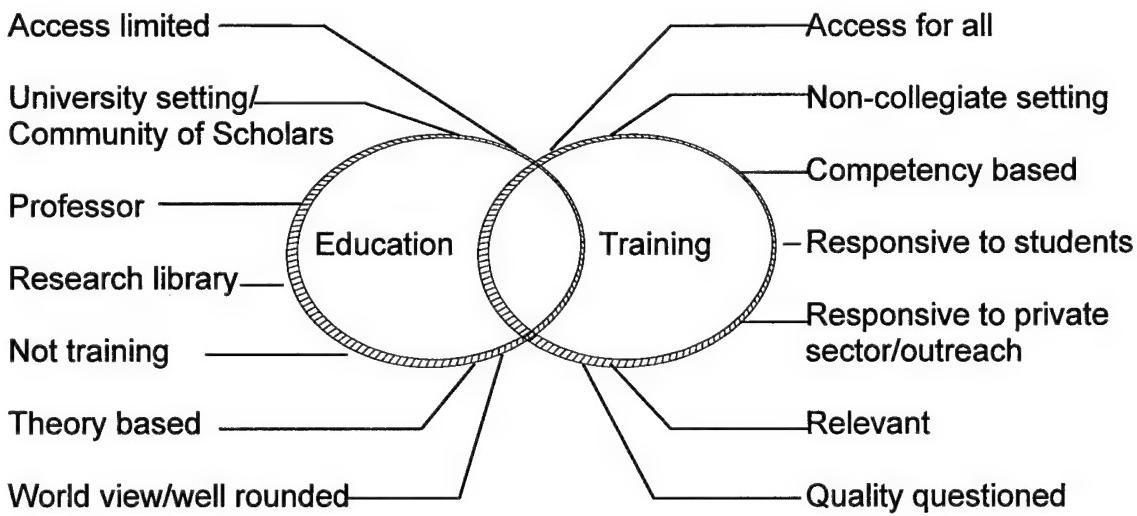


Figure 11. Education-Training Dichotomy

In terms of the impact of these divergent perspectives on institutional policies, more traditional institutions minimized or denied credit opportunities for non-collegiate learning. Institutions making a greater effort to reach out to non-traditional learners had more flexible policies. The next theme examined the transfer function more specifically.

### Theme Three

The third theme revealed that the linchpin of articulation, comparable curriculum, negatively impacted military students. The preponderance of military training prepares service members for their occupational specialty. While excellent cross-over was reported in some specialty areas such as language training, parallel programming was often lacking in the collegiate setting.

A variety of external and internal forces complicated the transfer process. Participants identified the following four external forces impacting transfer: (a) state and federal mandates, (b) accrediting agencies, (c) the private sector, and (d) regional institutions. Coincident with these findings the literature indicates that when state and federal agencies have a stake in the operation of higher education institutions, legislative mandates are likely to grow (Callen & Finney, 1997). In Texas, the core curriculum and the 170 hour rule for undergraduate education are but a few of the imposed requirements delineated by participants. Along with state and federal edicts, regional and specialized accrediting agencies impose curricular standards (Leatherman, 1991). Participants associated these standards with decreased flexibility. In terms of the

private sector, expenditures on corporate-sponsored education are huge (Hall, 1991; Stewart, 1989). Some study sites partnered with local businesses to meet employee needs. Finally, Kintzer and Wattenbarger (1985) maintained, and findings confirmed, that collaboration between sending and receiving institutions was closely linked with effective articulation.

Participants identified the following three internal forces impacting transfer: (a) staff knowledge, (b) targeted academic programs, and (c) institutional reputation. All participants noted that in the absence of significant exposure to military students, most faculty and staff would have difficulty assessing associated training for college credit. Similarly, the literature confirms that military members may lose credit because institutional personnel are unaware of available assessment tools (Anderson & Kime, 1996; Palmer & Ludwig, 1991; Stewart, 1989). In terms of targeted academic programs, two of the study sites had specialized baccalaureate degrees that incorporated an occupational component. These programs facilitated articulation of students, including military members, wishing to transfer credit from applied courses. Many educational experts call for greater emphasize on articulation of such students, given that up to half of all community college transfer students come from occupational programs (Barkley, 1993; Bender, 1991; Cohen & Brawer, 1996; Fredrickson, 1998; Knoell, 1990). The final internal factor focused on institutional reputation. Some participants feared that greater acceptance of non-traditional learners and non-traditional programs would adversely impact institutional reputation. Similarly, the literature attributes inaction on the part of colleges and universities

to parallel concerns (Ashworth & Lindley, 1977; Hall, 1991; Stewart, 1989; Watkins, 1981). As a whole, this theme highlighted the complexity of the transfer process. The next theme examined institutional variation and organizational change related to awarding college credit for military training.

#### Theme Four

The fourth theme revealed that organizational change in the direction of implementing policies and practices beneficial to military students was more likely in the presence of a pre-existing culture of outreach toward non-traditional learners. One important manifestation of that culture of outreach was non-traditional programming. Both IU and CU developed baccalaureate degrees for students needing post-secondary education for career advancement. Such programming signaled a commitment to working adults whose talents and educational preparation rested in the applied realm.

Much has been written about change within organizations in general and higher education institutions in particular. Though the emphasis attached to organizational variables differs, an overriding point in all of these writings is that instituting change is a complicated, multi-faceted, generally difficult, process (Jick, 1993; LaMarsh, 1995; North, 1993; Rogers, 1983; Tichy & Devanna, 1986). Further, for a variety of reasons, colleges and universities seem to be notoriously change resistant (Farmer, 1990; Hall, 1991; Tichy & Devanna, 1986; Wood, 1990). Nadler and Tushman's (1993) organizational model proved to be a helpful framework to conceptualize the change process within higher education

institutions in this study. While this research highlighted a myriad of issues impacting organizational operations, values and beliefs affected everything. Thus, the model was modified, as depicted in Figure 12, to portray that pervasive influence.

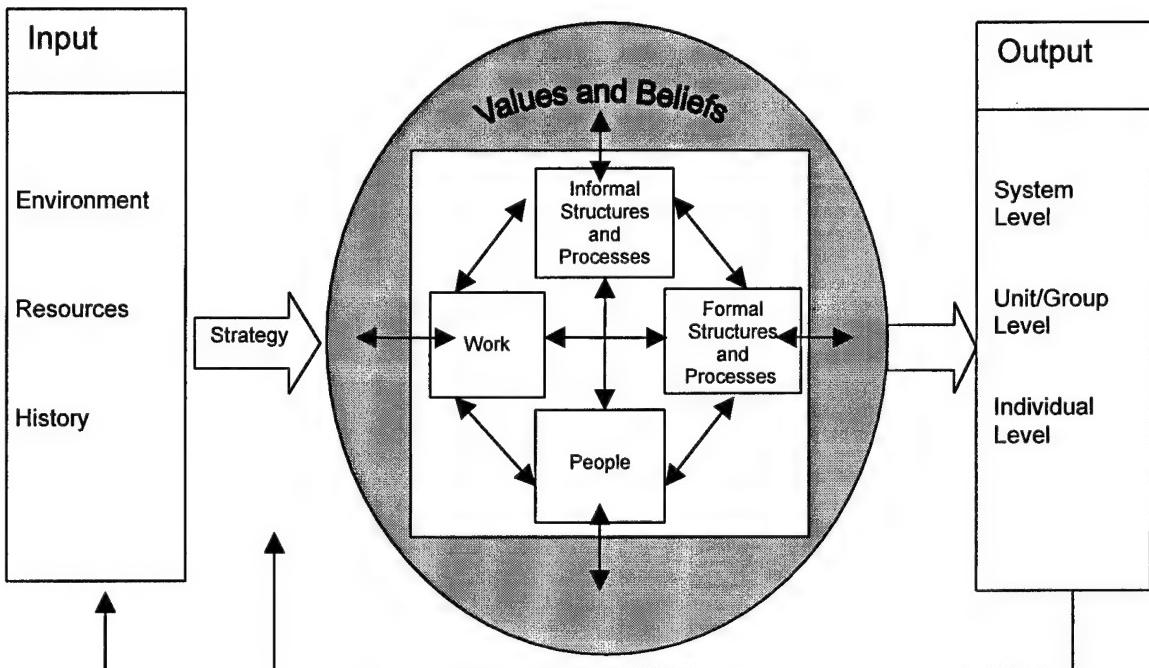


Figure 12. Modified Nadler and Tushman's (1993) Organizational Model

In this framework, strategy is the pattern of decision-making relative to resource deployment in response to environmental opportunities and threats. Outreach to non-traditional learners was a significant strategy employed by IU and CU to penetrate a different market. The organization, depicted here as an oval, includes four core components: work, people, formal structures and processes, and informal structures and processes with values and beliefs influencing all operations. Nadler and Tushman (1993) maintained that the key to organizational effectiveness as well as to effective change is congruence

among these elements. This research aligned with that contention; those wishing to implement change within higher education institutions should examine the impact of the proposed innovation holistically. As discussed next, the rate of change has been accelerated in recent years with the advent of technology.

### Theme Five

The fifth theme revealed that technology was driving significant changes within higher education. Resultant improved access should benefit military students and other non-traditional learners. This finding was somewhat serendipitous in that while no questions specific to technology were on the interview guide, technology was clearly impacting the professional lives of most administrators. By all accounts, technology deployment within higher education was increasing and was projected to continue to increase. Indeed, Gallick (1998) confirmed that state and federal legislation have increased technology funding at all levels of education.

Overall, participants spoke of technology as a mixed blessing. Flexible delivery systems hold great promise to improve access to under-served populations; yet, administrators spoke of fear of the unknown, problems associated with technology deployment, and discomfort with the seemingly non-stop pace of change. Similarly, like any instructional methodology, the literature identifies strengths and weaknesses of technology-based instruction. For example, while the barriers of time and distance can be overcome, such things as loss of student motivation, inadequate technical support, and potentially

prohibitive start-up costs have been linked with distance education (Galusha, 1998; Gallick, 1998; Kerr, 1996).

Because military members cannot attend regularly scheduled classes on campus, distance technology is one means to access accredited courses. More importantly, some authors propose that by changing key roles of faculty, students, and administrators, information technology alters the culture of higher education institutions in a direction favorable to non-traditional learners (Bair, 1996; Hall, 1991). Men and women in the armed forces stand to gain from such a cultural shift.

### Summary

Taken together, findings coincide with much existing literature, and add to the scant research base specific to the military. The notion that military students compare favorably to traditional students is generally congruent with the research on adults (DeJoy, 1997; Hall, 1991; Polson, 1993). Similarly, the discussion about what a college education should represent, and the education and training dichotomy are common areas of debate (Astin, 1993; Darkenwald & Merriam, 1982; Richardson et al., 1983; Parnell, 1985; Tichy & Devanna, 1986). Consistent also with literature related to transfer, this study identified multiple factors both internal and external to the organization impacting this process (Hall, 1991; Leatherman, 1991; London, 1992; Kintzer & Wattenbarger, 1985; Stewart, 1989). Little has been written about baccalaureate programs that incorporate a technical or occupational component (Barkley, 1993; Bender, 1991; Fredrickson,

1998). This research suggested that such undergraduate degrees are quite helpful for those with applied educational backgrounds. Congruent with multiple studies, the fourth theme highlighted the influence of culture, values, and beliefs on organizational decision-making (Bennis, 1989; Nadler & Tushman, 1993; Rogers, 1983). Finally, this research corroborates the notion that technology, though not a universal remedy, holds great promise to meet the needs of non-traditional learners (Hall, 1991).

### Discussion

Throughout this study the author has called for greater flexibility in both transfer credit decision making and programming. This demand, though easy to make, is clearly not so easy to implement. This research highlighted the impact of values and beliefs on transfer policies. Values change slowly (Kashner, 1990). Similarly, Wood (1990) identified educational programs as the element of higher education most resistant to change. Nonetheless, military members and other non-traditional learners are standing on the thresholds of colleges and universities across the nation asking for help.

Reforms in the direction of facilitating the articulation of non-traditional learners need not be inconsistent with the time-honored broad liberal education. Although adults cherish relevancy, nothing in this study minimized traditional collegiate learning. Even applied baccalaureate programs that incorporate occupational credit also include general education and professional development components (Bankhead & Martin, 1998; Brooks, 1994). Further, nothing in this

study implied that military members or other non-traditional learners are looking for some kind of free ride. Quite the contrary, this research revealed that while these students expect recognition for prior learning, they are also likely to demand quality instruction.

In terms of implementing changes specific to military students, Langenberg (1995) maintained that such things as striking student heterogeneity, consumerism, competition, and limited resources mark the contemporary higher education landscape. Given this tumultuous environment, realistically, should the articulation of military students take precedence? The answer for many colleges and universities is probably no. Although this research indicated that military members do well in collegiate settings, these students will probably not significantly influence the overall enrollment of most institutions. Should the recruitment of non-traditional learners take precedence? For most colleges and universities, the answer is probably yes. Just as the nation as a whole is aging, half of American undergraduates are now twenty-five years of age or older (Langenberg, 1995). Consistent with this research, efforts to reach out to non-traditional learners are expected to benefit men and women in the armed services as well.

Having stated that most higher education institutions need adult students, how can barriers that impede their articulation be removed? While some obstacles are beyond institutional control, this research indicated that policies denying credit for non-traditional learning were not necessarily designed to be exclusionary, but rather driven by a desire to preserve academic standards and

rooted in the belief that much non-collegiate learning simply does not measure up. Farmer (1990) noted that because faculty members are instinctively conservative about educational matters, resistance to change is particularly intense in higher education. Denigrating that conservative instinct was not a purpose of this research; tradition is certainly important. However, the author does contend that meeting the needs of a broader spectrum of students is not as inconsistent with traditional collegiate learning as some administrators may believe.

A discussion about articulation of adults and military students would not be complete without mention of occupational programs. Nearly a decade ago, Knoell (1990) labeled students with applied backgrounds as invisible. In 1999, perhaps this population would best be characterized as translucent. Diverse programs targeting these students exist, but are not widespread (Barkley, 1993; Fredrickson, 1998). While some educators allege that the narrow focus of occupational programs weakens the college major, Langenberg (1995) noted that

...the emergence of the knowledge-based economy also means that the economic well-being of most people depends on their ability to develop and maintain sophisticated practical skills that were once the province of society's elite. If this is "vocationalism" then it is a central aspect of life today, not a regrettable symptom of decline from a golden past. (p. 8)

Higher education institutions are expected to meet the varied needs of varied clients. Yet, no single institution can be all things to all people. Some colleges and universities may simply elect not to offer non-traditional degrees. However, given shifting student demographics and increase in providers of

higher education, progressive programming may be one means to address ever-present enrollment challenges (Crow, 1998; Green, 1990; Langenberg, 1995).

Morgan (1986) noted that metaphors allow for understanding of one aspect of organizational life in terms of another. Perhaps a useful metaphor to employ in the articulation dialogue is that of a neighborhood. Higher education institutions can be viewed as a community of about 4000 homes. The difficulty associated with entering these homes varies. Some houses have no obstacles to the front door; visitors move about freely. To gain access to most houses however, some barriers must be negotiated. One house may have a gate to open. Another may have multiple exterior doors to unlock. Still another may have a team of guard dogs to pacify. Given what can be a formidable obstacle course, one might conclude that the occupants of these houses prefer to be left alone. In truth, some guests are invited for extended stays. For years, Joe College, the eighteen-year-old with outstanding academic credentials, has had a standing invitation throughout the community. While Joe is still welcome, as the funds needed for home maintenance and improvement have grown, so too has the guest list. The community is now more diverse than ever.

Turning briefly away from higher education, although the military is not in the business of independently providing degree programs, military sources also have a role in solving articulation problems. The Community College of the Air Force, Servicemembers Opportunity Colleges, and the Defense Activities for Non-Traditional Education Support are just some of the organizations that help bridge the gap between two largely unconnected systems. As will be discussed

further later, a variety of strategies can be employed by both Education Services Officers and military members themselves to facilitate articulation.

The consensus among all research participants was that major changes were on the horizon, though the scope of anticipated changes was largely unknown. Similarly, Hall (1991) believed that the capacity of the university to weather what he referred to as a stormsurge would require a new style of leadership and entrepreneurial management. Without such leaders and entrepreneurs, he speculated that institutional decline, needless bureaucratization, and academic demoralization would be the future for some colleges and universities. With all its faults, the American higher education enterprise is the biggest and the best in the history of the world (Hall, 1991; Langenberg, 1995). Hopefully, most institutions will step up to the challenges of the new millenium that will surely bring unprecedented opportunities for non-traditional learners. As opposed to speculating about the years ahead, the next section addresses current implications of this research.

### Implications

Much interview discussion focused on strategies to improve the articulation of military members into Texas higher education programs. Analysis of this discussion, coupled with a comprehensive review of existing literature, yielded specific recommendations for higher education institutions, Education Services Officers, and individual military members.

## Higher Education Institutions

Higher education institutions should (a) join Servicemembers Opportunity Colleges, (b) evaluate the need for applied baccalaureate programs, and (c) appoint transfer coordinators. Each recommendation is discussed separately.

Servicemembers Opportunity Colleges (SOC). Higher education institutions should join SOC. This research identified no articulation model that can, or should, supplant the time-tested framework advocated by this consortium. As discussed before, at a minimum, individual SOC institutions agree to: (a) design transfer policies to minimize loss of credit and avoid duplication of course work; (b) limit academic residence requirements; (c) recognize and use the ACE Guide and/or credit by the Community College of the Air Force to award credit based on military training courses and experiences; and (d) award credit through the use of nationally recognized testing programs (SOC, 1997).

Review of the Carnegie Foundation's (1994) institutional classification as compared to Servicemember Opportunity Colleges identified in the 1997 catalog, revealed some variance associated with institutional type as shown in Figure 13.

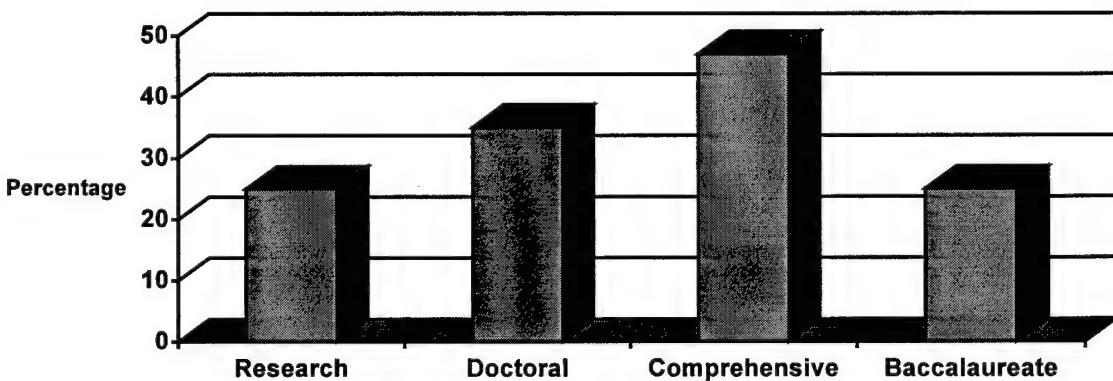


Figure 13. Percent of institutions that are SOC consortium members

Although clear institutional differences are noted, regardless of classification, for unknown reasons the majority of colleges and universities have elected not to join the consortium. Whether or not non-member colleges and universities adhere to SOC principles is also unknown. As was highlighted by this study, IU complied with membership criteria for many years prior to actually joining. More research is needed to address institutional reluctance to participate in the program. The next recommendation focuses on degree programs found to be particularly beneficial for military students.

Applied baccalaureate programs. Higher education institutions should evaluate the need for applied baccalaureate degrees in their regions. With the exception of institutions located near military installations, military members will probably not substantially influence overall head counts. Conversely, graduates of occupational programs have significant potential to impact enrollment. As depicted in Figure 14, over 12,000 Texans received technical or tech-prep associate degrees in FY 1996 while just over 9000 received academic associate degrees (Texas Higher Education Coordinating Board, 1997).

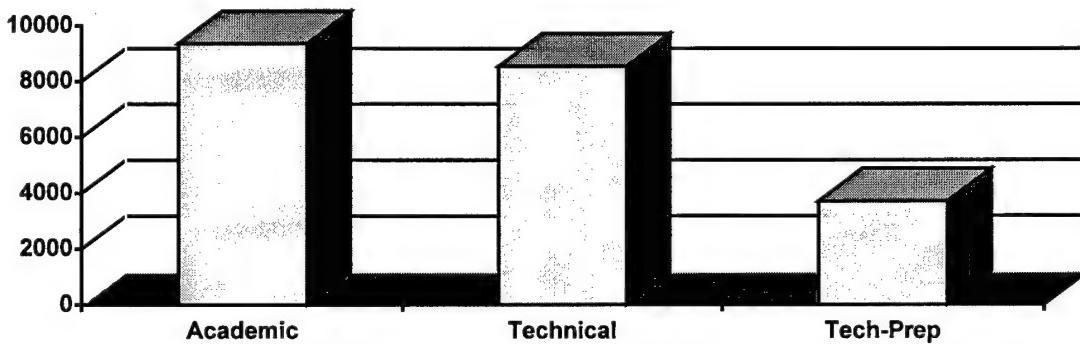


Figure 14. Types of Associate Degrees awarded in Texas (FY 96)

According to Cohen and Brawer (1996), transfer rates from occupational programs may be as high as 50 percent. In Texas, these students do not constitute half of all transfers; nonetheless, their transfer rate is substantial. Based on Texas Higher Education Coordinating Board (1997) six-year tracking data, 18.7 percent of students awarded technical associate degrees transferred to Texas, public, four-year institutions. For some colleges and universities, these non-traditional students may be one answer to sagging enrollment. The baccalaureate programs at both IU and CU have been successful for many years. While curricular changes may help attract military students and other non-traditional students to higher education institutions, as discussed next, transfer coordinators can facilitate the articulation process.

Transfer coordinator. Post-secondary institutions should appoint a transfer coordinator/military liaison. Transfer credit decision-making is often decentralized from the admissions office to individual departments, especially at larger institutions. All personnel involved in the assessment of military training should be aware of available tools to facilitate the evaluation process; however, in settings where exposure to these students is limited, designating an institutional expert to serve as a resource for both students and faculty is ideal. In the sections to follow, attention is shifted away from higher education to specific recommendations for the military.

### Education Services Officers (ESOs)

ESOs should (a) encourage credit by examination, (b) incorporate provisions related to acceptance of credit in memorandums of understanding, and (c) counsel service members regarding transfer credit decision-making. Each recommendation is discussed separately.

Credit by examination. ESOs should encourage credit by examination. Several administrators identified testing as one of the quickest and easiest ways to obtain recognition for pre-existing knowledge and proficiency (administrator #3, personal communication, November 6, 1998; administrator #4, personal communication, November 17, 1998; administrator #7, personal communication, November 17, 1998). Similarly, Stewart (1989) maintained that use of standardized examinations should be increased given the credit generating potential of these tools and the universal acceptance of this form of credit. While credit by exam can benefit all students, the next section focuses more specifically on programs offered on military installations.

Memorandums of understanding. ESOs should incorporate provisions related to the acceptance of credit in memorandums of understanding. ESOs partner with higher education institutions to provide needed programs on base. That partnership is formalized in memorandums of understandings. Ludwig and Palmer (1993) identified local collaboration as the key to successful articulation. Similarly, alliances between institutions and the private sector sited in this study highlighted the power of these regional relationships. Locally, ESOs are in the best possible position to advocate practices beneficial to military students. ESOs

and other counselors are also in excellent positions to ensure military students understand some of the limitations of higher education systems. Further discussion related to the importance of counseling follows.

Counseling. ESOs should counsel military students regarding transfer credit decision-making. Some respondents maintained that because military members do not appreciate the process involved in equating their military training with college credit, these students tend to overestimate the amount of credit that will reasonably transfer (administrator #4, personal communication, November 6, 1998; administrator #9, personal communication, November 24, 1998). One participant noted that members of the armed forces "generally are given promises which don't match reality for competitive four year schools" (administrator #4, personal communication, November 6, 1998). Stewart (1989) encouraged ESOs and other counselors to inform military members that transfer of credit can be problematic, and that acceptance of credit is basically the prerogative of the receiving institution. Additionally, military students should be made aware of the difference between credit acceptance and credit application. Shifting attention from ESOs, military members are ultimately responsible for their own education. Recommendations specific to service members follow.

#### Individual Military Members

Military members should (a) begin with a long-range goal, (b) consider non-traditional degree programs, (c) maintain documentation of educational

activities, and (d) utilize testing options. Each recommendation is discussed separately.

Long-range planning. Military members should begin with a long-range plan. Participants spoke of military students arbitrarily “gathering up hours” with no real direction (administrator #12, personal communication, November 24, 1998; administrator #8, personal communication, November 18, 1998). Because each program has different requirements, this practice wastes time and money. Military members should consult with faculty early on regarding course requirements, and the match between those requirements and prior learning (administrator #4, personal communication, November 17, 1998). As discussed next, applied baccalaureate programs are one option that might be evaluated during the planning process.

Non-traditional degrees. Military members should consider non-traditional degree programs. As this research highlighted, because the applied baccalaureate includes a technical or occupational component, more credits are likely to be awarded for military training. In most cases, this option will be the most expeditious route to a baccalaureate degree. Whether service members choose traditional or non-traditional degree programs, as discussed next, documentation is essential to effective articulation.

Documentation. Military members should maintain documentation of educational activities. College personnel must determine that the training being considered for credit is equivalent to institutional course requirements. If this comparison cannot be made, credit will not be awarded. Course listings on

military transcripts along with course descriptions in the CCAF catalog and the ACE Guide may or may not be enough. Participants suggested maintaining as much documentation about the training activity as possible to facilitate the evaluation process. As one informant stated,

Make no assumptions that anybody understands what that assignment was. The lingo, like I was in SMHM. Who knows what that is? They need to be more specific and clarify. If not in the portfolio, in written form, in picture form, somewhere to educate the uninformed so they can make an educated judgment.  
(administrator #10, personal communication, November 24, 1998)

This passage reinforced the notion that effective communication between discordant cultures is difficult. The onus is on the military member to make that connection. While military training may not parallel much collegiate learning, standardized testing, as highlighted once again in the section to follow, can be incorporated into most degree plans.

Testing. Military members should utilize testing options to obtain as much credit as possible. As mentioned previously, credit by examination is commonly accepted by higher education institutions. As relayed by one participant,

[Military students] can take one of a long list of approved CLEP [College Level Examination Program] exams or other subject matter tests that are given nationally. Then there is the department exam. If they believe they have the knowledge or skill that is represented by a course, then the easiest way is to go to the academic department that offers the course and see what they require to validate that they have indeed gained that knowledge or skill. (administrator #4, personal communication, November 6, 1998)

Overall, testing offers an efficient means to verify competency, especially in situations where institutional personnel are unable to link documentation of training with current curriculum. Students with appropriate educational and

experiential backgrounds, military or otherwise, stand to gain time and money by taking advantage of this option and avoiding unnecessary coursework.

### Summary

This section provided policy and practice recommendations for higher education institutions, Education Services Officers, and individual military members. Turning first to policy, higher education institutions were encouraged to join the SOC consortium. ESOs were encouraged to incorporate provisions related to acceptance of credit in memorandums of understanding. In terms of practice recommendations, post-secondary institutions were encouraged to appoint a transfer coordinator/military liaison and to evaluate the need for applied baccalaureate programs. Practice recommendations for ESOs included encouraging credit by examination and counseling military students regarding transfer credit decision-making. Based on this research, the commonsense advice for military members included entering higher education with a long-range goal, considering non-traditional degree programs, maintaining documentation of educational activities, and utilizing testing options. The articulation of military students would be improved if these recommendations were consistently employed. Annual meetings of post-secondary associations and appropriate military and higher education publications are some of the forums the author will utilize to disseminate this information.

### Suggestions for Further Research

Potential future research topics related to effective articulation of military students are many. This study brings four such topics to the forefront. First, because adherence to SOC principles and guidelines would improve articulation of military students, discerning institutional rationale for non-participation would be helpful. Second, research specific to military students is lacking. This study suggested that military members are focused, mature, hard-working and goal oriented. If this is true, despite barriers, degree completion should arguably be much better. Further inquiry related to motivation and persistence of this group is needed. Third, additional organizational case studies would be helpful to further assess and refine the change model presented in this study. Finally, research specific to occupational students is needed on two fronts. First, comparatively little has been published regarding transfer patterns of this student segment. Such data could help bolster the case for developing targeted programs. Second, this research suggested that higher education institutions may step back from developing programs for non-traditional learners due to fear that such changes may adversely impact institutional reputation. Further inquiry addressing such institutional barriers is also warranted. Concluding comments are provided next.

### Conclusion

The gap between military student enrollment in higher education programs and degree completion is significant. The award or denial of college credit for

military training, the focus of this research, is one of many factors that can either narrow or widen that gap. This section briefly reviews the research purposes and questions as a prelude to concluding comments.

The first purpose and question addressed organizational mechanisms for making credit determinations. Variance was noted in terms of SOC membership and associated use of the ACE Guide. Variance was also noted in terms of availability of non-traditional degree programs that accommodate students with occupational education backgrounds. Findings suggested that traditional four-year degree programs often do not meet the needs of students whose interests and talents rest in the applied realm.

The second research purpose and associated question was related to perceptions of military training by key leaders. While participants favorably compared military students with traditional students, whether these learning experiences were viewed as college equivalent varied relative to individual and institutional philosophical beliefs about what a college education should represent. Military training was not congruent with the more traditional view of collegiate level learning. However, participant interviews suggested that such things as shifting student demographics, economic pressures, and technology are changing, and will continue to change, higher education. Further, all administrators agreed that greater flexibility will be needed to meet twenty-first century societal needs.

The third purpose and related research question addressed factors that facilitated and inhibited the articulation of military students. Factors facilitating

articulation included: (a) an organizational emphasis on relevancy in education; (b) the availability of degree programs that incorporated a technical or occupational component; (c) the availability of faculty and staff who are knowledgeable about military training; and (d) a pre-existing organizational culture of outreach toward non-traditional learners. Factors inhibiting articulation included: (a) an organizational emphasis on traditional collegiate learning; (b) curricular inflexibility imposed by accrediting agencies; (c) a lack of faculty and staff knowledgeable about military training; and (d) an organizational concern that embracing non-traditional learning would adversely impact institutional reputation.

The fourth purpose and corollary research question were related to policy and practice recommendations. Findings revealed that the articulation of military students can be improved if targeted strategies are implemented. Implications for higher education institutions, Education Services Officers and military students were discussed in the previous section.

The final research question examined how the process of organizational change was evident in the evolving policies and practices of evaluating military training for college credit. This study revealed that organizational change in the direction of implementing policies and practices favorable to military students was more likely in the presence of a pre-existing culture of outreach toward non-traditional learners. Findings were generally congruent with the Nadler and Tushman (1993) organizational model. However, this research suggested that

greater emphasis on organizational values and beliefs was needed. The model was modified accordingly.

This research indicates that the management of non-traditional learners can be improved. As Brooks (1994) pointed out, avoiding unnecessary duplication of education and training, and recognizing non-traditional sources of college credit are changes that are both needed and long overdue. Barkley (1998) further stated that,

Perhaps the most progress can be made in the way higher education views itself. If the public is going to gain the most from its rapidly disappearing educational dollars, it should encourage (if not demand) higher education to cooperate more and compete less, to communicate more and confuse less, and to collaborate more and argue less. Changing long-held views and attitudes is inherently more difficult than changing policies or procedures, but the nation may gain a great deal during this final decade of the twentieth century if small steps are taken to encourage cooperation, communication, and collaboration within higher education. (p. 48)

The long-standing relationship between higher education and the military has, all in all, been mutually beneficial. The new millennium will usher in unprecedented changes within both systems. Higher education will need to reach out as it never has before. Members of the smaller, more sophisticated, armed forces will need and expect advanced education. Just as Barkley (1998) called for cooperation, communication, and collaboration within higher education, so too must higher education and the military work to resolve the articulation problems described in this study. Both stand to gain by acting now.

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**APPENDIX A**  
**LETTER TO PROSPECTIVE RESEARCH SITES**

Date (letters mailed week  
of October 16, 1998)

Name and Address  
of Senior Leader

Salutation

1. Dr. Albert Smith from Texas Tech University recently talked with one of your associates about utilizing (Name of Institution) as a potential research site. The package serves to follow-up that conversation. My dissertation entitled, "Articulation of Military Members into Texas Higher Education Programs: A Cross Case Analysis" will focus on divergent institutional practices of awarding college credit for military training. Enclosed please find a full copy of the research proposal along with an abbreviated abstract.
2. (Name of Institution) was identified as a potential site based on (site specific information).
3. My proposal defense is schedule for October 27<sup>th</sup> at 10:00 AM in the Texas Tech Education Administration Building, Room 244. You are certainly welcome to come. However, given the geographic separation between (location of institution) and Lubbock, and your busy schedule, I realize attendance would be virtually impossible. Perhaps I could meet with you briefly to discuss the proposal and answer any questions. I will call and set up an appointment.
4. Thank you for considering this request. If you need to contact me for any reason, I may be reached at (915) 698-4889 or GUNNYUSA@[aol.com](mailto:aol.com). Dr. Smith is available at (806) 742-1997 ext. 302 or [ismit@TTACS.TTU.EDU](mailto:ismit@TTACS.TTU.EDU).

PATRICIA E. ALVOET, Major, USAF, NC  
Doctoral Student

**APPENDIX B**  
**INTERVIEW SCHEDULE**

**Table 7. Interview Schedule**

DATE	INFORMANT(S)
November 2, 1998	Administrator #1
November 4, 1998	Administrator #2
November 6, 1998	Administrator #3
November 6, 1998	Administrator #4
November 10, 1998	Administrator #5
November 11, 1998	Administrator #6
November 17, 1998	Administrator #7
November 18, 1998	Administrator #8
November 24, 1998	Administrator #9
November 24, 1998	Administrator #10
November 24, 1998	Administrator #11 <sup>a</sup>
November 24, 1998	Administrator #12 <sup>a</sup>
December 3, 1998	Administrator #13 <sup>b</sup>
December 3, 1998	Administrator #14 <sup>b</sup>
December 3, 1998	Administrator #15
December 3, 1998	Administrator #16
December 7, 1998	Administrator #17
December 7, 1998	Administrator #8 <sup>c</sup>
December 17, 1998	Administrator #18

<sup>a</sup> Joint interview #11 & 12

<sup>b</sup> Joint interview #13 & 14

<sup>c</sup> Second interview

**APPENDIX C**  
**INTERVIEW GUIDE**

## INTERVIEW GUIDE

### RESEARCH QUESTION 1

How is the process of organizational change evident in the evolving policies and practices of evaluating military training for college credit at three, Texas, four-year institutions?

1. How has the process of evaluating military training for college credit changed in the past ten years?
2. As best you can recall, what was the sequence of events that led to the development and implementation of programs specific to military students?
  - a. What factors created the need for program development?
  - b. How was the program selected?
  - c. Who were key advocates and critics of the program?
  - d. What steps were involved in developing the program?
  - e. What were the expected outcomes/consequences of the program?
  - f. What were the actual outcomes/consequences of the program?
  - g. Once implemented, how has the program been modified and why?
  - h. Is this program now an element of the organization's ongoing activities or does it still have special program status?

## RESEARCH QUESTION 2

What are the organizational mechanisms at three, Texas, four-year institutions for making credit determinations when evaluating military training?

1. What is the process at your institution for evaluating military training for college credit?
  - a. Who is involved in decision-making?
  - b. Is there an institutional policy specific to this process? If so, who maintains that policy?
  - c. What resources are helpful when making credit determinations?

ACE Guide

Military transcripts

Personnel from local military installation

Other

- d. How is credit generally applied?
- e. Are practices of awarding credit consistent institution-wide or do practices of awarding credit vary college to college?
- f. Why are requests for credit generally denied?
- g. What recourse do the military students have for appealing decisions to deny credit?

### **RESEARCH QUESTION 3**

**How do key leaders at three, Texas, four-year institutions view military training?**

1. What types of military training do students generally seek college credit for at this institution? To your way of thinking, are these requests legitimate?
2. In your experience, how do military students compare to traditional students?
3. Under what circumstances is non-collegiate learning equivalent to collegiate learning?
4. Do you believe current institutional policies and practices with regard to the award of college credit for military training are appropriate/sufficient or in need of change?

## **RESEARCH QUESTION 4**

**What factors facilitate and inhibit the articulation of military students into three, Texas, four-year institutions?**

- 1. What poses the most significant barriers to awarding college credit for military training?**
- 2. What can military students do to maximize the number of credits awarded for military training?**
- 3. What can educational counselors on military installations do to maximize the number of credits awarded for military training?**
- 4. What can institutions do to maximize the number of credits awarded for military training?**

**APPENDIX D**  
**PARTICIPANT FOLLOW-UP LETTERS**

Date

Name of Participant  
Address of Participant

Personalized Salutation,

First and foremost, please accept my sincere thanks for participating in my dissertation research. I know your time is valuable. Enclosed please find a copy of the interview transcript and the informed consent form for your records. I am confident that the transcript is accurate; voice recording quality was generally excellent. However, if you have any concerns, please let me know. My phone number and email address are as follows: (915) 698-4889 or GUNNYUSAF@aol.com.

To update you on the study, a total of 18 university administrative personnel were interviewed during the months of November and December. The recordings from these interviews were transcribed. These transcripts along with other documents were segmented into text units representing discrete incidents, ideas, or events. This line by line assessment process yielded a number of recurring themes. As opposed to listing those themes here, I will forward you a copy of the dissertation abstract once finalized.

Once again, thank you very much for your invaluable contribution to my research.

Sincerely,

PATRICIA E. ALVOET  
Texas Tech Doctoral Student

**MEMORANDUM**

TO: Research Participants  
FROM: Patricia Alvoet  
RE: Dissertation Abstract  
DATE: March 22, 1999

Enclosed please find a draft abstract of my dissertation research. Thank you all once again for participating. If you would like to discuss the study further, my phone number and email address are as follows: (915) 698-4889 or GUNNYUSAFA@aol.com. You are all invited to my defense, though I realize attendance will be impossible for most of you. The defense itself is scheduled for April 1, 1999 from 1:30 – 3:30 P.M. in room 244 of the administration building on the main campus at Texas Tech. Once again, thank you all very much for your support.

PATRICIA E. ALVOET  
Texas Tech Doctoral Student

**APPENDIX E**  
**INFORMED CONSENT**

## INFORMED CONSENT

I hereby give consent for my participation in the project entitled: Facilitating Articulation of Military Members into Texas Higher Education Programs: A Cross Case Analysis.

I understand that the persons responsible for this study are:

Dr. Albert Smith (806) 742-1997 ext. 302

Patricia Alvoet (915) 698-4889

Patricia Alvoet has explained to me that this interview is part of a project that has the following objectives:

1. to compare the practices of awarding college credit for military training at three, Texas, four-year, higher education institutions. (Primary data source – documents)
2. to compare the perceptions of key leaders at three, Texas, four-year, higher education institutions about military training. (Primary data source – interviews)
3. to profile factors which facilitate and inhibit the articulation of military students into three, Texas, four-year, higher education institutions. (Primary data source – interviews)
4. to provide recommendations for policies and practices related to the award of college credit for military training. (Primary data source – interviews)

I understand there will be no payment for participation in this study. Because my participation is limited to an interview or interviews, there are no anticipated risks.

It has been further explained to me that the anticipated total duration of my participation will be a single one to two hour interview with the possibility of a follow-up interview at a later date; that only Patricia Alvoet and members of her dissertation committee will have access to the records and/or data collected for this study; and that all data associated with this study will remain strictly confidential. Pseudonyms for both institutions and individuals will be used in both the dissertation and any subsequent publications. I am aware that case study descriptions may make institutional and/or individual identification possible. The researcher agrees to provide participating institutions with portions of the dissertation referencing their college or university for review and as needed revision prior to publication.

Dr. Smith has agreed to answer any inquiries I may have concerning the procedures and has informed me that I may contact the Texas Tech University Institutional Review Board for the Protection of Human Subjects by writing them in care of the Office of Research Services, Texas Tech University, Lubbock, Texas 79409, or by calling (806) 742-3884.

If this research project causes any physical injury to participants in this project, treatment is not necessarily available at Texas Tech University or the Student Health Center, nor is there necessarily any insurance carried by the University or its personnel applicable to cover any such injury. Financial compensation for any such injury must be provided through the participant's own insurance program. Further information about these matters may be obtained from Dr. Robert M. Sweazy, Senior Associate Vice President for Research, 742-3884, Room 203, Holden Hall, Texas Tech University, Lubbock, Texas 79409-1035.

I understand that I may discontinue this study at any time I choose without penalty.

Signature of Subject: \_\_\_\_\_ Date: \_\_\_\_\_

Signature of Project Director or Authorized Representative:

\_\_\_\_\_ Date: \_\_\_\_\_

ARTICULATION OF MILITARY MEMBERS INTO TEXAS HIGHER EDUCATION  
PROGRAMS: A CROSS CASE ANALYSIS

ABSTRACT

The problem for this study was to explore factors that may contribute to the acceptance or rejection of military training for college credit. The purposes of this study were to: (a) compare the practice of awarding college credit for military training at three, Texas, four-year, higher education institutions; (b) compare the perceptions about military training of key leaders at three, Texas, four-year, higher education institutions; (c) profile factors which facilitated and inhibited the articulation of military students into three, Texas, four-year, higher education institutions; and (d) provide recommendations for policies and practices related to the award of college credit for military training. Research questions paralleled these purposes.

Using a multiple case study design, three higher education institutions with divergent views on awarding college credit for military training served as research sites. The unit of analysis was institutional leaders having input into the development of policies, practices, and programs related to awarding college credit for military training. Using an open-ended interview guide approach, eighteen formal interviews were conducted. Other sources of data included informal interviews, field notes, and journal entries.

Data analysis revealed five recurring themes. First, military members compared favorably to traditional college students. Second, consensus about what a college education should represent was lacking. This philosophical division limited organizational responsiveness to military students. Third, the linchpin of articulation, comparable curriculum, negatively impacted military students; parallel programming was often lacking in collegiate settings. Non-traditional baccalaureate degrees that included an occupational component were helpful. Fourth, organizational change in the direction of implementing policies and practices favorable to military students was more likely in the presence of a pre-existing culture of outreach to non-traditional learners. Fifth, technology was driving significant changes within higher education that should benefit military students. Answers to the research questions were embedded in these themes.

Findings suggested that targeted strategies could improve the articulation of military members into higher education programs. To facilitate the articulation of military members, colleges and universities are encouraged to join the Servicemembers Opportunity Colleges consortium, appoint a transfer coordinator/military liaison, and evaluate the need for applied baccalaureate programs. Educational Service Officers are encouraged to incorporate provisions related to credit acceptance in memorandums of understanding with institutions providing programs on military installations, advocate credit by examination, and counsel military students regarding limitations of transfer credit.